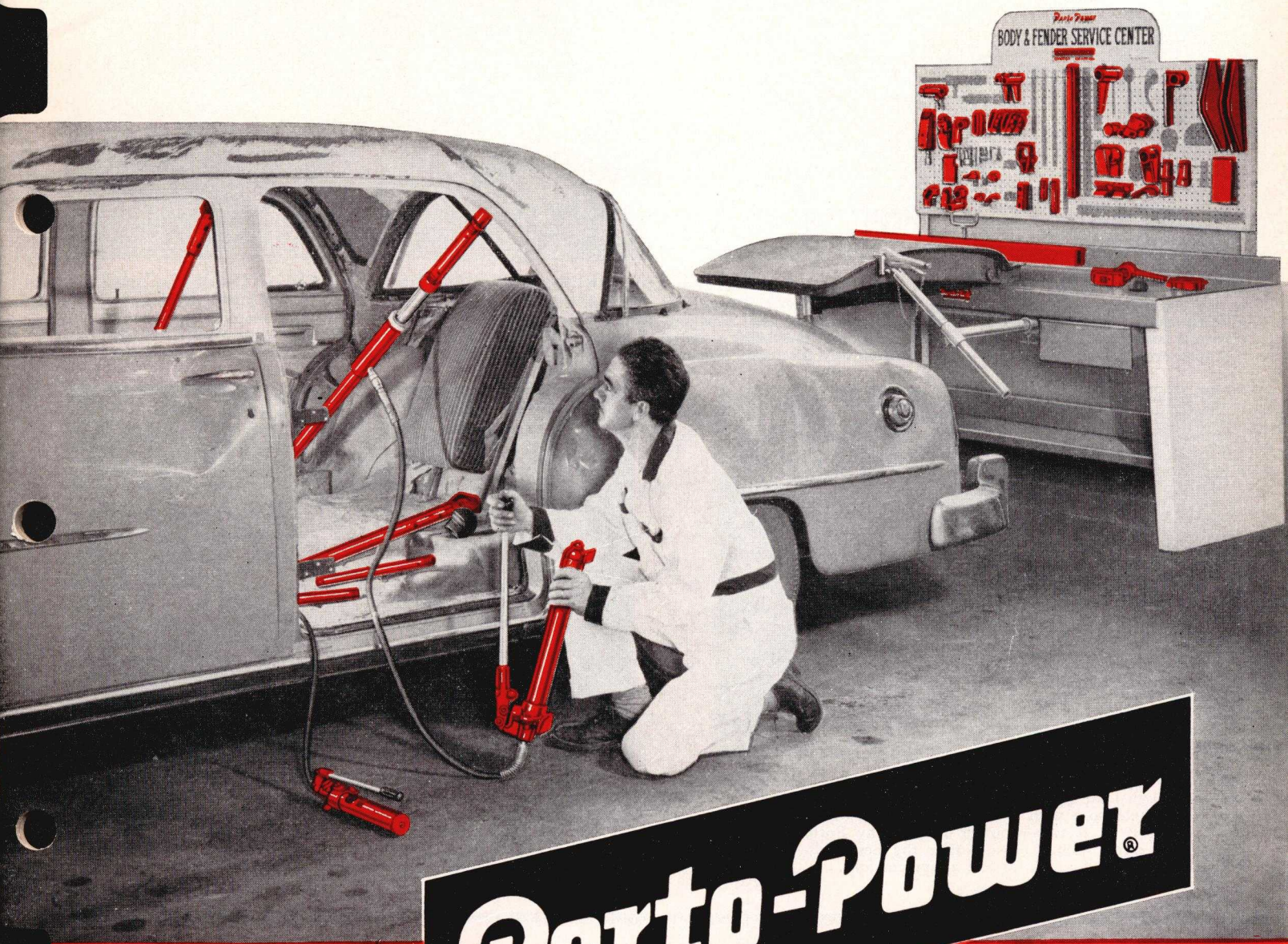
BLACKHAWK®

CATALOG P-51

Supersedes Catalogs P-50 and P-50A and Shop Manual P-249

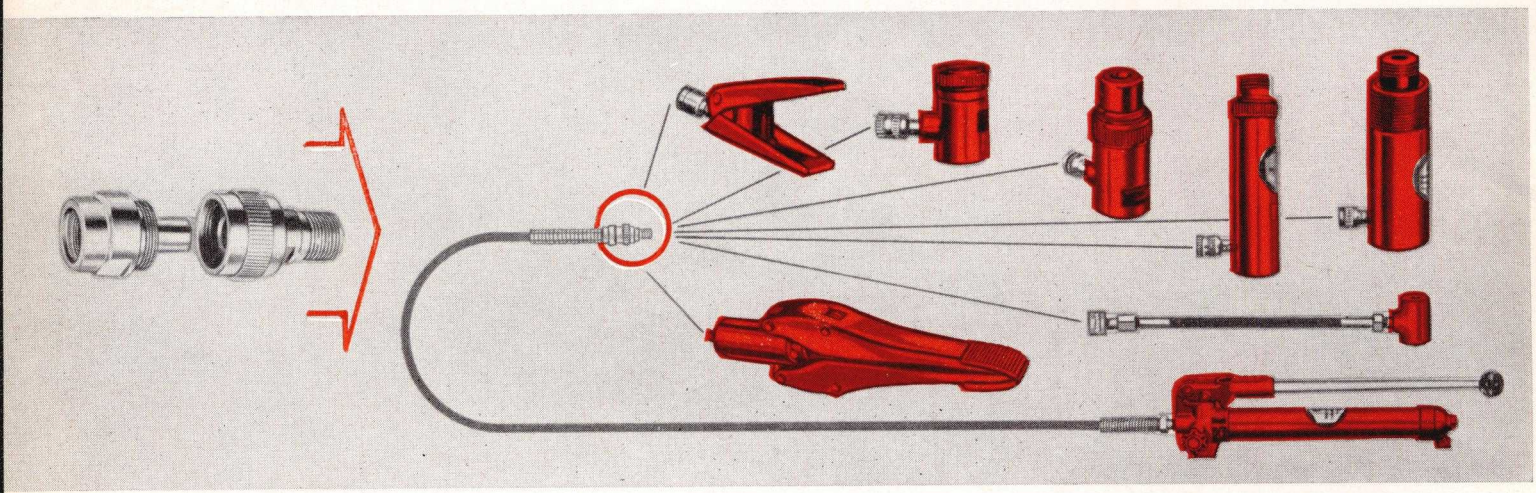


Porto-Power®

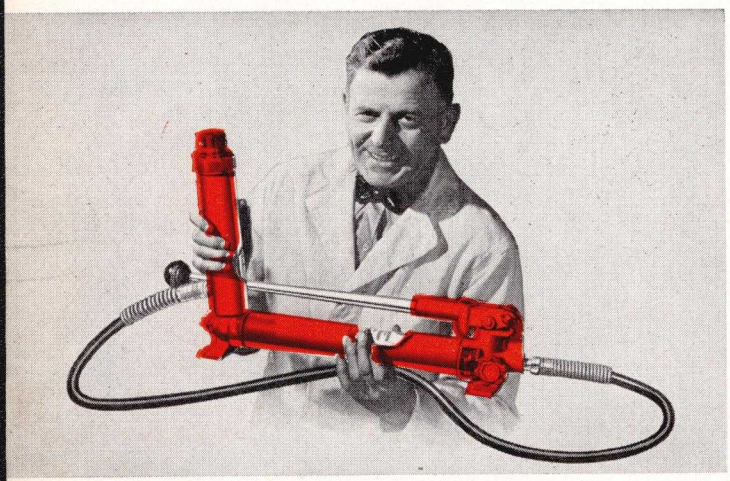
HYDRAULIC EQUIPMENT HELPS YOU EARN

MORE DOLLARS FROM DAMAGE

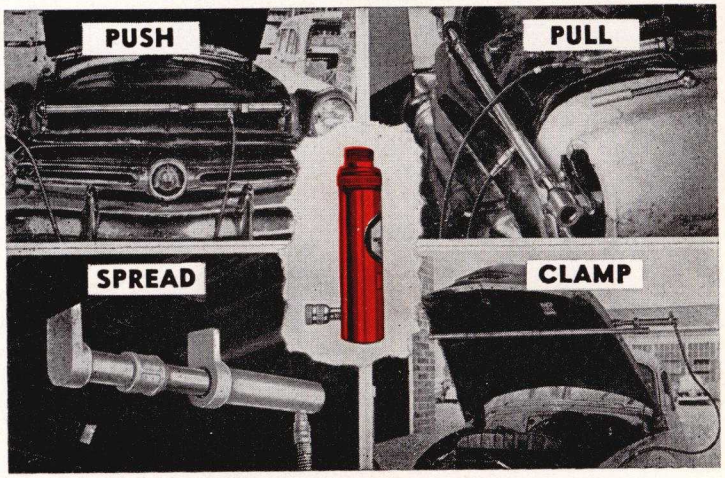
Porto-Power® is always years ahead..



QUICK 5-SECOND SWITCH OF RAMS WITH EXCLUSIVE SPEE-D-COUPLER—With Porto-Power, it's economical and practical to invest in additional rams and spreaders without buying a pump and hose for each one. Spee-D-Coupler enables Bantam P-400 Pump to serve *five* different rams and spreaders; P-76 Pump serves *seven* different rams and spreaders. Only Porto-Power gives you this complete interchangeability to serve its complete line of hydraulic rams. Blackhawk originated Spee-D-Coupler in 1939 and since then all Porto-Power has been equipped with it—another money-saving reason why it's more true today than ever—there's no substitute for Porto-Power.



SINGLE HOSE FOR SPEEDIER WORK—Porto-Power users breeze through their work because they have the great advantage of a single hose with a revolving coupler which makes set-ups so easy to handle—another reason why Porto-Power owners cut reconditioning costs—offer the best bids—make bigger profits on all roughout and alignment jobs.



ONE-DIRECTION GENERAL PURPOSE RAM—Blackhawk pioneered the development of one-direction rams in Bantam, 10, 20 and 50-ton ranges. Bored out of solid steel stock, these rams will push, pull, spread and clamp when used with Porto-Power attachments. They're all equipped with Blackhawk's exclusive Spee-D-Coupler for quick five-second switch.

INDEX TO COMPLETE PRODUCT INFORMATION

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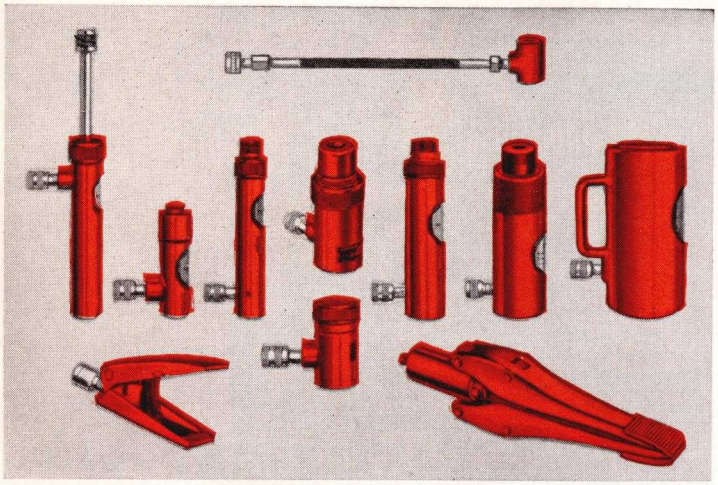
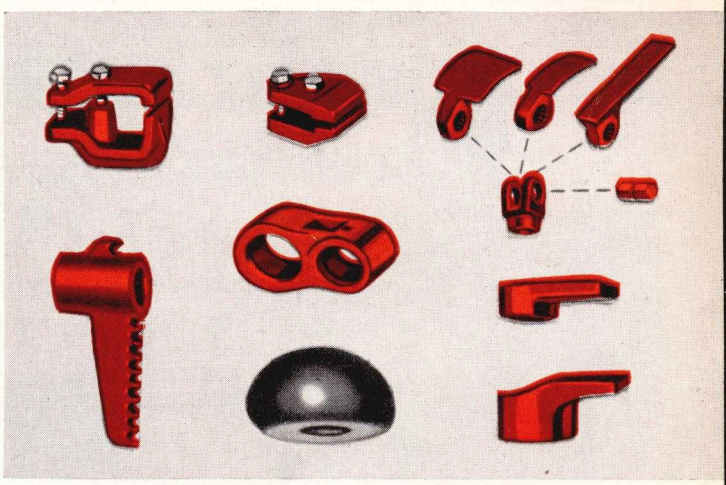
BLACKHAWK MFG. CO

BLACKHAWK OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

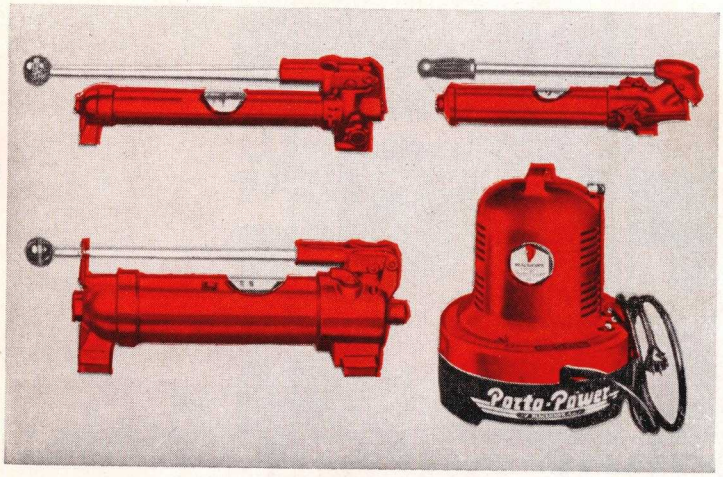
...it makes body shops more profitable!



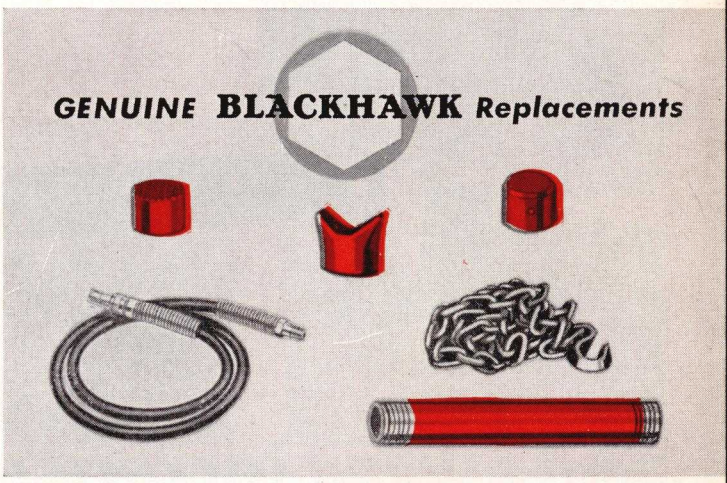
ONLY *COMPLETE* LINE OF HYDRAULIC RAMS AND SPREADERS—Only Porto-Power gives you the right size and style of hydraulic rams and spreaders for each type of body damage. They're all Spee-D-Coupler equipped for quick 5 second switch. You make more profit with Porto-Power.



ONLY *COMPLETE* LINE OF BODY-WORK ATTACHMENTS—Push, pull, spread, clamp more ways with Porto-Power—faster, easier. Only Blackhawk offers all basic attachments body men need. They are engineered with the same precision as today's cars and designed to fit their repair needs.



ONLY *COMPLETE* LINE OF HYDRAULIC PUMPS—Porto-Power is the only body jack equipment that offers you a full range of pumps for a full range of work from 4 to 50-tons. Blackhawk introduced the first time-saving power-driven pump to the body jack field—another important development that has kept Porto-Power years ahead—made it first choice!



SELECT ONLY BLACKHAWK REPLACEMENTS—When you add attachments, pumps or rams to your Porto-Power family, insist on genuine Blackhawk. Each piece has been specially designed and engineered to work with the rest of the line. Be sure that yours is all matched Porto-Power. It will last longer, give you more dependable service year after year.

INDEX TO LATEST PORTO-POWER METHODS

Field Applications on Pages 25 through 47

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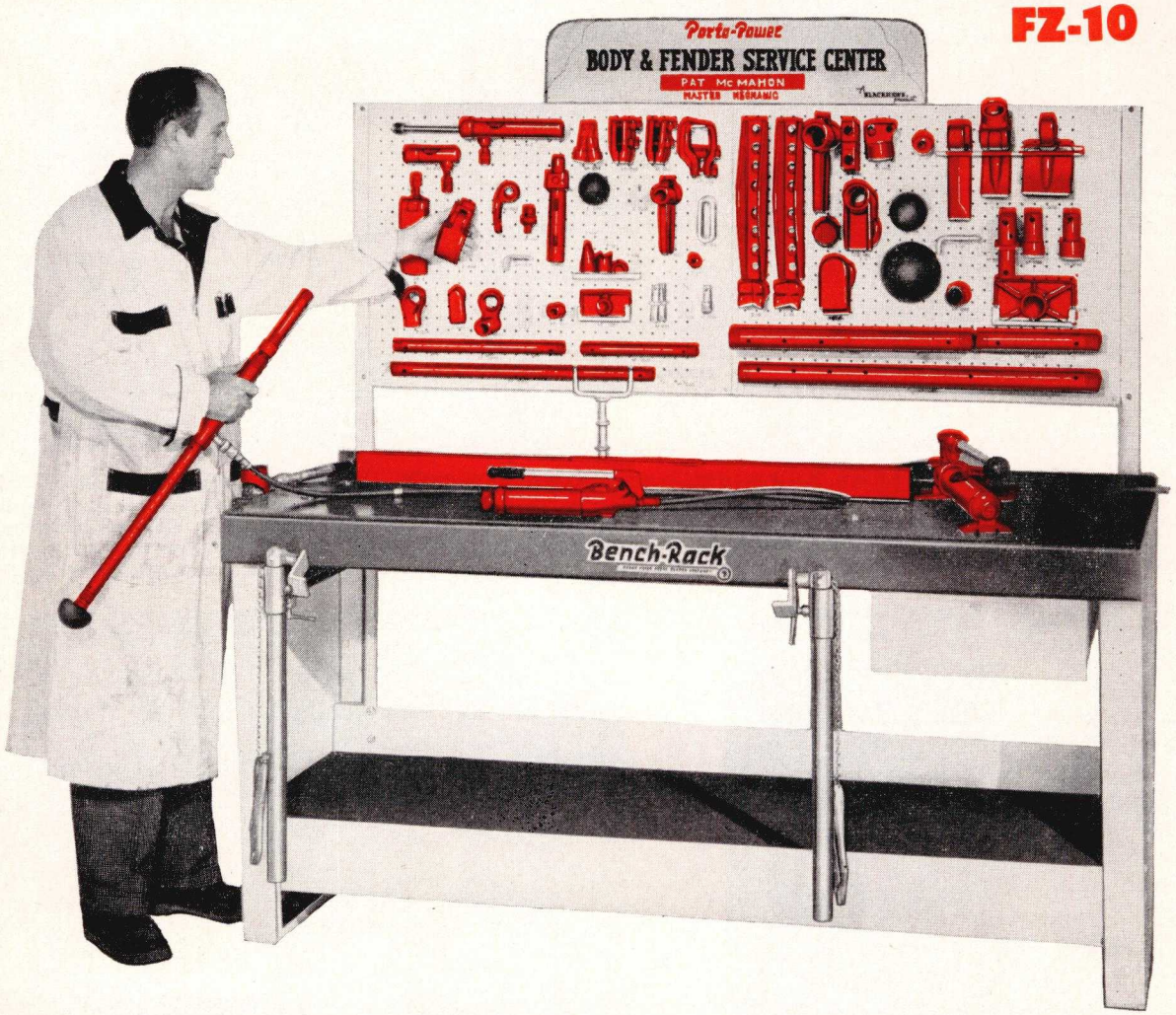
Porto-Power serves all 20 major body sections	25
How to assemble Porto-Power combinations	26–31
Pulling with Porto-Power	32–35
Pushing with Porto-Power	36–37
Spreading with Porto-Power	38–41
Clamping with Porto-Power	42
Multiple Porto-Power combinations	43
Bench-Rack applications	44–47

COMPLETE REPAIR SERVICE FOR YOUR PORTO-POWER

A list of all Blackhawk Authorized Service Depots, from coast-to-coast, is given on page 48.

Greatest new idea in body shop management

FZ-10



Bench-Rack increases labor output 25% to 40%

Bench-Rack is the greatest new advance in the body repair field. It's an entirely new system that cuts costs and increases output to help a shop meet today's competitive challenge.

Here's how Bench-Rack makes body shops more competitive:

1. Increases peak load capacities so that profitable jobs don't have to be turned away during busy periods.
2. Enables shops to offer better bids.
3. Increases service absorption for dealers.
4. Organizes body shops so that they are as neat and efficient as motor-tuning, lubrication and other departments.
5. Attracts and keeps good body men.
6. Creates satisfied customers by turning out better work.

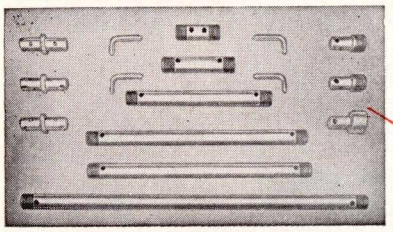
Owners report that Bench-Racks increase labor output 25% to 40% and pay for themselves in six to eight months. A 25% increase in labor output means 10 hours more work per man per week. Ten hours at the rate of $2.00 per hour means $20.00 per week. Allowing 50 weeks in one year, it means $1,000.00 in increased labor profits for each man equipped with a Bench-Rack. They really pay for themselves fast!

Bench-Rack organizes the body shop, giving each man his own work center. The hydraulic body jack equipment included on the Bench-Rack gives a *proper balance* of required Porto-Power to handle *all* on and off-the-car repair. The all-metal work bench, with clamping arms and door bar, enables a man to slash up to 50% of the time on off-the-car rough-outs. Silhouetted panels store all necessary body jack equipment, eliminates needless walking—borrowing—waiting! (All Bench-Rack elements are illustrated on opposite page.)

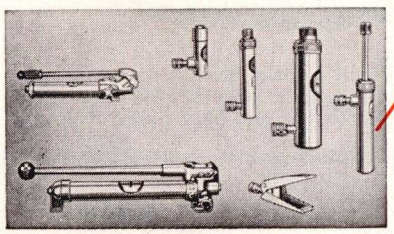
With a Bench-Rack, a body man is completely equipped to take full advantage of the tremendous, growing body repair market under today's tighter competitive conditions.

Here's how to equip each body man for all major rebuilding and repair

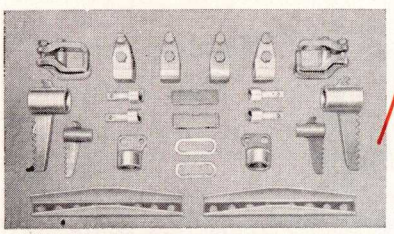
Bench-Rack provides complete hydraulic body jack equipment for every body shop requirement . . .



BANTAM LOCK-ON TUBING enables body men to make set-ups 50% faster on all body sheet metal repair. Tubing and attachments just slide together.

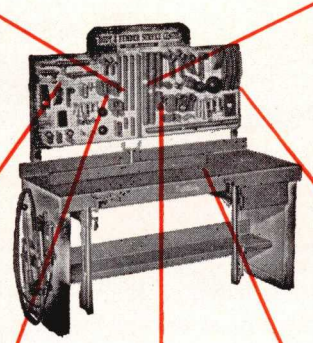


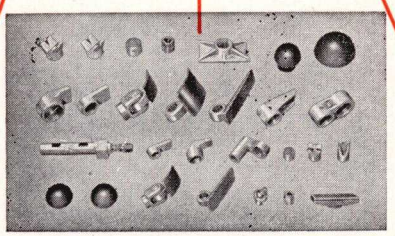
4 RAMS, 2 PUMPS, 1 SPREADER—Wide range of hydraulic power for major repair on all 20 body sections of today's cars. Spee-D-Coupler epuipped for 5-second switch!



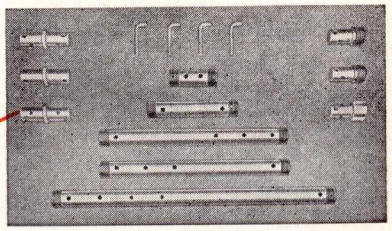
22 PULL-CLAMP ATTACHMENTS help body men pull more ways with greater speed and do better work. For both Bantam and 10-Ton pulling hook-ups.

FZ-10

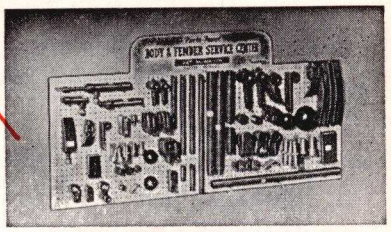




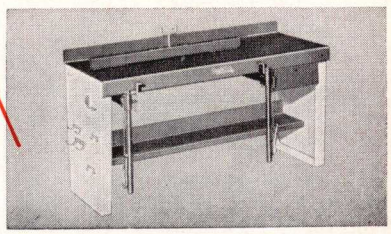
28 ADDITIONAL ATTACHMENTS that include the latest Porto-Power developments in both Bantam and 10-Ton. Everything needed for fast, profitable work.



10-TON LOCK-ON TUBING provides swift, efficient assembly of Porto-Power combinations. Lock Pins securely hold set-ups on all pulling operations.



SILHOUETTED STORAGE PANEL holds all attachments plus 2 rams and spreader. Keeps all equipment in one place. Organizes your shop—stops needless walking, borrowing.



STEEL WORK BENCH has Door Bar and Adjustable Clamping Arms that rigidly hold any body section. SA-50 and S-71 Units mount on left side of bench.

10-Ton Equipment

No.	Qty.	No.	Qty.	No.	Qty.	No.	Qty.
AZ-1300	2	FZ-1005	1	Z-8	1	Z-34	1
AZ-1301	4	FZ-1050	3	Z-9	1	Z-128	1
AZ-1303	2	FZ-1051	2	Z-10	1	Z-131	1
AZ-1304	4	FZ-1052	1	Z-14	1	Z-170	1
AZ-1307	2	FZ-1250	2	Z-16	2	Z-192	1
FZ-1002	1	FZ-1300	2	Z-21	4	Z-306	1
FZ-1003	1	FZ-1301	2	Z-30	1	Z-307	1
FZ-1004	2	S-71	1				

Bantam Equipment

No.	Qty.	No.	Qty.	No.	Qty.	No.	Qty.
AZ-1002	1	AZ-1052	1	RC-618	1	Z-539	2
AZ-1003	1	AZ-1200	1	RC-640	1	Z-545	1
AZ-1004	1	AZ-1250	2	SA-6	1	Z-588	1
AZ-1005	2	AZ-1308	1	SA-50	1	Z-629	1
AZ-1006	1	AZ-1600	1	Z-530	1	Z-650	1
AZ-1050	3	AZ-1701	1	Z-531	1	Z-1034	1
AZ-1051	2	AZ-1900	4	Z-532	1		

FZ-10 BENCH-RACK includes complete Bench, Storage Panels and Porto-Power Assortment listed in tables above.
It is possible to build toward the Bench-Rack system by ordering any of the components listed below:

Porto-Power Assortment only includes all Attachments, Rams and Hydraulic Units listed in above tables, both 10-Ton and Bantam **FZ-26**

Bench-Rack alone includes heavy steel Bench with Door Bar and Adjustable Clamping Arms, and 16 gauge sheet steel Storage Panels with service sign **FZ-27**

Storage Panels only includes heavy steel panels for Attachments and Rams, and "body and fender" service merchandising sign **FZ-2706**

Bench only includes heavy steel Bench with Door Bar, Adjustable Clamping Arms with "Vise-grip" pliers chained to them, steel drawer and storage shelf **FZ-2707**

Angle-iron frame for mounting FZ-2706 Storage Panels to FZ-2707 Bench **FZ-2705**

Pages 25-47 show both on and off-the-car applications using Bench-Rack's hydraulic equipment. Off-the-car work with Bench-Rack is on Pgs. 44-47.

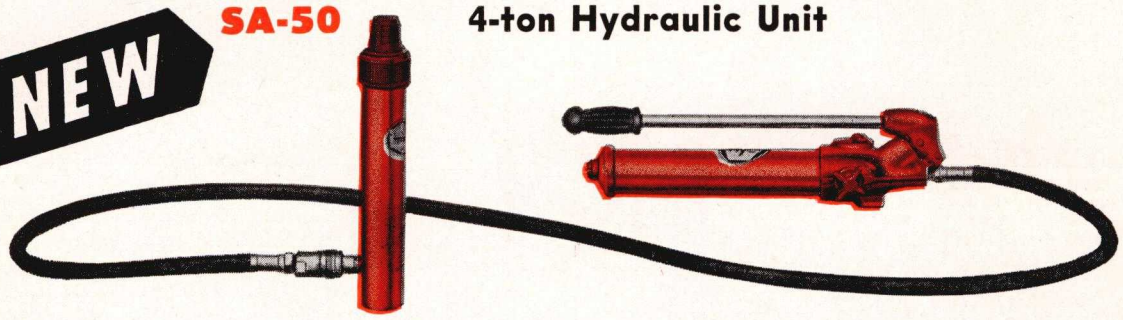
Greatest improvement in lightweight Body Jack design brings you GREATER POWER, FASTER WORK!

NEW Bantam Pump—"Spring-back" Pull Ram—Retracto Push Ram

Now Bantam Porto-Power is available with full 4-ton capacity for more efficient sheet metal rough-out work. Heart of this improved Bantam equipment is the all-new P-400 Pump that gives faster work with effortless pumping and has free-flowing oil channels providing years of profitable service. Both Rams have spring return that cuts job time, helps you assemble and disassemble hook-ups easier.

NEW

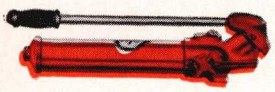
SA-50 4-ton Hydraulic Unit



SA-50 Hydraulic Unit is furnished in Sets on pages 10 and 11. Includes P-400 Pump, 6-ft. Z-864 Hose with Spee-D-Coupler that lets you switch Bantam rams in just 5 seconds, and RC-540 Push Ram used with Bantam attachments on opposite page. RC-540 is interchangeable with RC-640 Pull Ram, RC-618 Short Ram, SA-6 Wedgie and SA-7 Spred Ram.

NEW

P-400 Bantam Pump



Here's an entirely new concept in lightweight pump design. Large dia. pump piston gives fast ram travel; 12" handle provides effortless pumping. Handy release valve on right side of pump head gives positive control, is easy to operate. P-400 is far ahead of the field with large, free-flowing oil channels, longer reservoir with greater oil and air capacity, and larger filter screens. Built to last a lifetime!

NEW

RC-540 Retracto Push Ram

For faster, more powerful work on a broad range of sheet metal problems, this improved Bantam Push Ram now delivers a full 4 tons of dependable hydraulic power. Speedy Retracto spring return automatically retracts plunger. For use with Blackhawk's wide array of field tested attachments. Has Spee-D-Coupler.

NEW

RC-640 "Spring-back" Pull Ram

Yes, here's what body men ordered—a compact, lightweight, full 2-ton Pull Ram for use with attachments to lick tough direct pulling operations. No need to pump out plunger. Spring return rushes plunger back into position for next pull operation. Spee-D-Coupler lets you switch to any other Bantam ram in just 5 seconds!

RC-618 Short Ram

Compact, squat-type ram that gives you hydraulic power for the most effective push in the smallest, cramped spots. Gets in and works fast where it's impossible to hammer or pry. Yet it almost doubles its collapsed height of 4⅞" with 1⅝" special screw extension plus 3" plunger travel. Sharp, serrated saddle assures positive grip. Saves time.

SA-6 "Wedgie"

The fast, profitable answer to troublesome dents and creases in fenders, doors, cowls and body sections—amazing hydraulic Wedgie has BUILT-IN RAM which opens its tough forged jaws from ⅜" to 3¾". Jaws close automatically. Top jaw is curved for dollying. Has ZR-630 half Spee-D-Coupler.

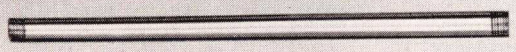
SA-7 "Spred" Ram

For reaching into narrow, tight openings and getting out bashes in today's deep fenders and panels, Spred-Ram with BUILT-IN RAM has spreading range of 11¾" and "reach" of 19¼" yet is only 1" at tip with arms closed. SA-7 brings out crushed sections without tearing or shearing! Eliminates hammering or stretching of metal.

Further information on pump and rams, Page 22; spreaders, Page 19.

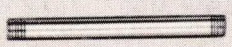
Job-engineered, field-tested attachments designed to meet body men's own requirements for sheet metal repair. Compact—lightweight—practical! Used with Bantam Porto-Power (pg. 6), they can be purchased singly or in complete assortments (pp. 10 & 11). All have ¾" pipe thread.

ALL-PURPOSE ATTACHMENTS

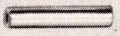


Z-498
23" Extension Tube

Z-543
15" Extension Tube



Z-542
10" Ext. Tube



Z-541
5" Ext. Tube

Z-546
3" Ext. Tube

Z-544
Coupling

Z-545
Male Connector

Z-530
Plunger Toe

Z-531
Serrated Saddle

Z-532
90° "V" Base

Z-533
Flat Base

used with old style RC-325

Z-534
Ram Toe

Z-535
Adjust. Ram Toe

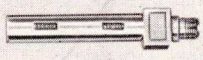
Z-539
2¾" Flex-Head

Z-557
5-ft. Chain

Z-558
Chain Pull Plate

Z-588
Adj. Body Spoon

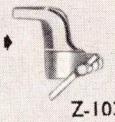
Z-629
Wedge-Head



Z-650
Slip Lock Ext.

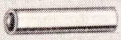
Z-972
Chain Pull Grip

used with RC-640

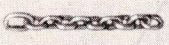


Z-1034
Ram Toe

Z-1035
Adj. Ram Toe



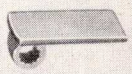
AZ-1053
Long Coupling



AZ-1180
Short Chain

AZ-1200
Rubber-faced Base

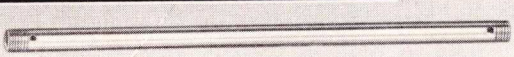
AZ-1308
Clamp Head



AZ-1600
Low Crown Adj. Spoon

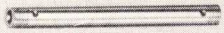
AZ-1701
Swivel Connector

LOCK-ON ATTACHMENTS

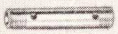


AZ-1006
23" Extension Tube

AZ-1005
15" Extension Tube



AZ-1004
10" Ext. Tube



AZ-1003
5" Ext. Tube

AZ-1002
3" Ext. Tube

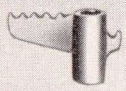
AZ-1050
Lock-On Connector

AZ-1051
Male Adaptor

AZ-1052
Female Adaptor

AZ-1900
Lock Pin

PULL-CLAMP ATTACHMENTS



AZ-1250
Offset Pull Toe

AZ-1307
Clamp Link

AZ-1301
Clamp Adaptor

AZ-1303
Fender Clamp

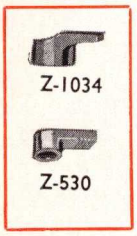
AZ-1304
Pull Clamp

Pages 8 and 9 show how you can boost your earnings with these attachments.

You cut reconditioning costs! offer the best bids! when equipped with these . . .

TIME AND MONEY-SAVING ATTACHMENTS

SPREAD MANY WAYS WITH THIS LOW COST COMBINATION



Made of high-grade heat-treated material, these compact spreading toes provide a spreading range from 1" to 6". They are used with RC-540 and RC-640 Rams to handle a variety of body repair operations like spreading damaged front fenders, grilles, door pillars or hood brackets. Upper photos on Pages 39 and 40 show working applications of these hook-ups. Basic Bantam spreading combinations are diagramed on Page 30 to help you quickly determine the right set-ups for a wide variety of unreinforced sheet metal work.

NEW RUBBER-FACED FLAT BASE PREVENTS SLIPPING

Blackhawk's exclusive rubber-faced Flat Base gives a completely non-skid footing for push operations where hydraulic power is exerted at odd angles like pushing out car tops or quarter panels. And it protects surfaces against marring or scratching. AZ-1200 may also be used with hydraulic Wedgie by means of AZ-1701 Swivel Connector for spreading damaged doors, cowls and quarter panels. A variety of basic set-ups with Bantam Flat Base are shown on Page 30. On-the-job application of AZ-1200 is pictured on Page 39 (upper right).

FLEX-HEAD CONFORMS TO ANY CONTOUR, PROTECTS FINISHES

For years an exclusive Porto-Power product, famous "dome-design" Flex-Heads fit any curve on doors, inside window frames and other body sections. They provide positive contact yet do not mar painted surfaces under hydraulic pressure. And the dome design enables set-ups to be positioned in compact places. Flex-Heads are used most in PUSH or SPREAD operations for repairing car tops, quarter panels, pillars or back panels. They cut costs on sheet metal repair. See diagrams on Pages 28 and 30; on-the-job applications on Page 40.

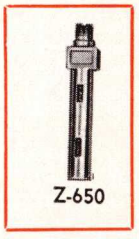
SPECIAL PULL JOBS LICKED WITH CHAIN AND PULL GRIP

For special, direct pulling operations, Chain Pull Grip and Bantam Chain are used with RC-640 Pull Ram for aligning new body sections and to straighten door pillars. They also allow infinite adjustments with Fender or Pull Clamps in direct pull set-ups. Bantam chain is frequently used to hold a second hook-up in position at a particular angle while primary force is applied through another Porto-Power combination. Various on-the-job chain applications are pictured on Pages 33, 34 (upper center), and on Page 35 (lower right).

BODY SPOONS SPEED RESHAPING OF CROWNED SURFACES

Blackhawk Bantam Adjustable Body Spoons can be positioned at any one of 24 different angles for reshaping low and high crown sections of body panels. New AZ-1600 Low Crown Spoon effectively brings out damage in low-crown areas. And all Blackhawk Spoons are of drop-forged steel so that they may be used for dollying. Diagrams, showing how Bantam Adjustable Spoons hook-up in Porto-Power combinations, are on Page 28. For working applications, see lower right photo on Page 36 and lower left photo on Page 43.

CHANGE SET-UP LENGTHS FASTER WITH SLIP-LOCK EXTENSION



You save time and effort by using Slip Lock Extension in your Bantam Porto-Power hook-ups. It quickly adjusts length of hook-up as much as 5¼" to provide the exact length needed to fit the job. Z-650 fits all Bantam extension tubing—both standard and Lock-On. And it works equally well in all types of set-ups; push, pull, spread or clamp. Diagrams on Pages 26 and 28 show Slip Lock Ext. in pulling and pushing combinations. On-the-job applications include pictures on Page 32 (lower photos) and all the illustrations on Page 43.

NEW LONG TUBE COUPLING STRENGTHENS LONG SET-UPS

This Bantam Long Tube Coupling has recessed threads (near middle) to provide extra-strong support with 15" and 23" Tubing in Bantam set-ups. It's particularly useful in offset push or pull hook-ups due to off-center stress placed on extension tubing. AZ-1053 Long Tube Coupling can be used between extension tubes in longer Bantam pull and push set-ups like those diagramed on Pages 26 and 28. This useful connector is included in AZ-10, AZ-11, AZ-24 and AZ-25 Bantam Sets (Pages 10 and 11).

"V" BASE, WEDGE HEAD ARE VITAL ANCHORING HOOK-UPS

Z-532 90° "V" Base and Z-629 Wedge Head are designed for anchoring Porto-Power set-ups against frame channels, reinforced corners and various edges. They are made of high grade heat-treated steel to withstand unusual strain and prolonged stress. Pages 28 and 30 show diagrams employing the "V" Base and Wedge Head in push and spread combinations. For working application, see upper photo on Page 42. "V" Base is handy for locking combinations against braces to prevent slipping.

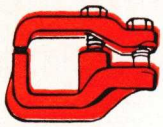
CLAMP HEAD ADAPTS BANTAM TO MANY CLAMPING OPERATIONS

New Bantam Clamp Head permits pushing, pulling and clamping with RC-540 Push Ram. It threads to ram and offsets extension tubing threaded to it. These applications are both time saving and effective for light sheet metal work with Bantam Porto-Power. Basic clamping combinations using AZ-1308 Clamp Head are diagramed on Page 31. See upper photo on Page 42 for on-the-job application of Clamp Head. Note: AZ-1305 is similar to AZ-1308 but is used with old-style RC-325 Bantam Ram.

More ways to pull! More speed! Easier set-ups! Lick light sheet metal repair with these . . .

SPEEDY, NEW ALL-PURPOSE PULL CLAMPS

AZ-1303
FENDER CLAMP

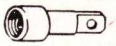


Adjustable milled jaws assure positive bite on fenders and beaded sections.

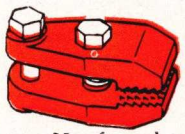
AZ-1307
CLAMP LINK

AZ-1250
PULL TOE

AZ-1301
PULL CLAMP

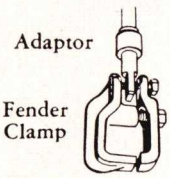


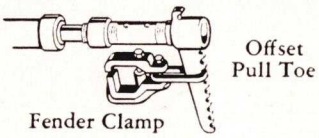
AZ-1304
PULL CLAMP

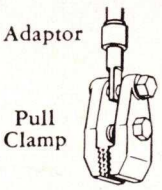


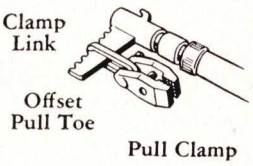
Has forged, cross milled jaws that are adjustable for sure grip on edges.

Here are basic set-ups with Bantam Pull-Clamp Attachments





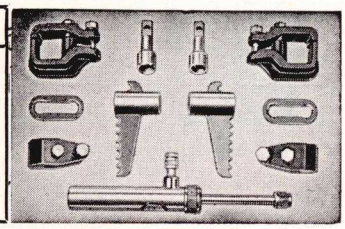




Now you can pull *more ways* with Bantam Porto-Power on all unreinforced, light sheet metal panels. And you do it faster and better. Added sheet metal damage from bumping and hammering is eliminated. Porto-Power pull-clamp attachments keep repair estimates competitive. Compare these exclusive advantages.

1. New offset pulling combinations snap damaged metal back into position without stretching or distortion. Combinations are compact and assemble quickly.
2. New Offset (notched) Pull Toes make set-ups completely adjustable to pull across either high or low crown body sections. No danger of crushing undamaged metal.
3. Pull Clamps hold their grip under hydraulic pressure and withstand hammer vibrations because of their sharp, forged cross-milled jaws that have twin-bolt adjustability for a sure grip.
4. Fender Clamps reach over all beaded sections—jaws are milled and adjustable with same twin-bolt arrangement for positive, non-slip grip.
5. Porto-Power Clamps and Attachments provide extreme flexibility. Clamps work with Pull Ram and Adaptors for direct pulls or with Pull Toes and Links for offset pulling.

No.	Q'ty.
AZ-1250	2
AZ-1301	2
AZ-1303	2
AZ-1304	2
AZ-1307	2
RC-640	1



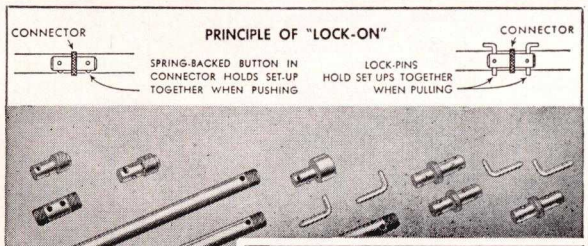
AZ-12 BANTAM PULL-CLAMP ASSORTMENT

A valuable addition that'll make your Bantam equipment more profitable. Includes the fast, improved, single-acting RC-640 Pull Ram that connects to your present Bantam pump plus clamps and attachments shown. With AZ-12 you perform all operations illustrated—and more! Clamps, adaptors and pull toes are designed for speed on a wide range of work.

AZ-14 Pull-Clamp Assortment contains the identical pull-clamp attachments as the AZ-12 but the RC-640 Ram is not included.

For all the ways to pull with Porto-Power, see Pages 32-35.

NEW TIME-SAVING BANTAM LOCK-ON TUBING


CONNECTOR
PRINCIPLE OF "LOCK-ON"
CONNECTOR
SPRING-BACKED BUTTON IN CONNECTOR HOLDS SET-UP TOGETHER WHEN PUSHING
LOCK-PINS HOLD SET UPS TOGETHER WHEN PULLING

No.	Description	Q'ty.
AZ-1002	3" Lock-On Tube	1
AZ-1003	5" Lock-On Tube	1
AZ-1004	10" Lock-On Tube	1
AZ-1005	15" Lock-On Tube	2
AZ-1006	23" Lock-On Tube	1
AZ-1050	Tube Connector	3
AZ-1051	Male Adaptor	2
AZ-1052	Female Adaptor	1
AZ-1900	Lock Pins	4

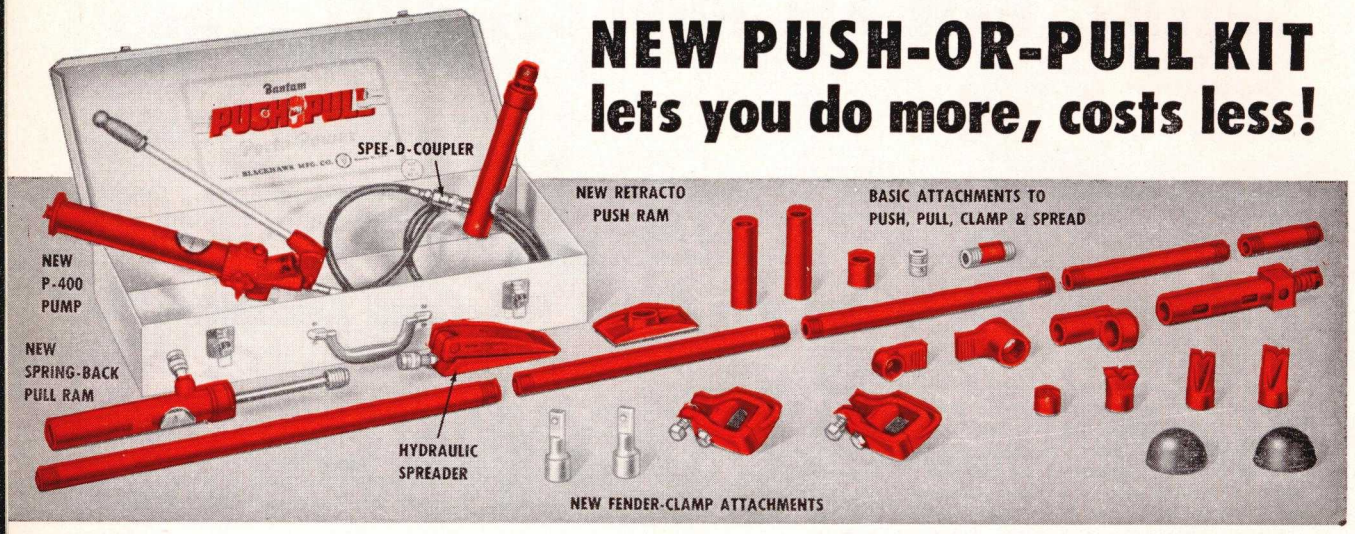
Slides together quick as a wink! Stays locked! Cuts assembly time way down!

Now you can cut 50% off the time needed to make Bantam set ups. Tubing and attachments slide together and are "locked" by a spring-backed button (as shown in diagram at left). Tubing has reamed and cross-drilled ends to receive Lock-On Connectors, Male and Female Adaptors. Lock Pins slip thru drilled holes in tubing and connectors or adaptors to hold set-ups together when pulling.

AZ-13 Bantam Lock-On Tubing Set contains 16 vital units to reduce set-up time. You make all of your Bantam equipment more efficient with this low-cost Asst. All Lock-On Extensions are threaded on outside for use with your present Bantam tubing. Give each body man the AZ-13 & cut job time down—step up shop earnings!

Only Blackhawk offers you matched sets of body jack equipment without duplication or any unnecessary attachments. Just the units needed for a specific range of work are included.

NEW PUSH-OR-PULL KIT lets you do more, costs less!



AZ-11 is the most terrific buy in body jack history! This 28-piece "Push-or-Pull" Kit is the result of requests and suggestions contributed by hundreds of skilled body men. It contains a Push Ram, Pull Ram and "Wedgie" hydraulic spreader. You *pull* with Blackhawk's new time-saving Fender Clamps and Pull Ram. *Push* with Flex-Heads, Flat Base, "V"-Base, Wedge Head or Serrated Saddle. *Spread* with hydraulic "Wedgie" or spreader toes. *Clamp* with new clamp Head attachment. An amazing range of easy-to-handle combinations that are "right" for the job and simple to set up. All rams are single acting (no double hose) for fast action and full power on either push or pull—at any angle! AZ-11 does so much it pays for itself on a few good jobs.

AZ-22 Push-or-Pull Kit is identical with AZ-11 but has speedy new Lock-On Tubing with connectors and adaptors that cut set-up time.

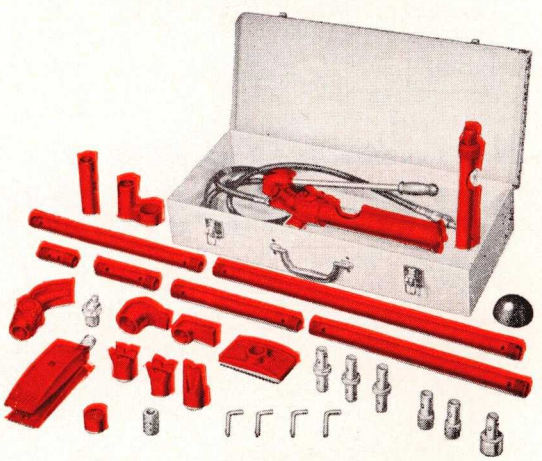
No.	Qty. in AZ-11	Qty. in AZ-22
AZ-1053	2	—
AZ-1301	2	2
AZ-1303	2	2
AZ-1308	1	1
AZ-1650	1	1
RC-640	1	1
SA-6	1	1
SA-50	1	1
Z-530	1	1
Z-531	1	1
Z-532	1	1
Z-533	1	1
Z-539	2	2
Z-545	1	1
Z-629	2	2
Z-650	1	1
Z-1034	1	1
STANDARD TUBING:		
Z-498	1	—
Z-541	1	—
Z-542	1	—
Z-543	2	—
Z-544	1	—
Z-546	1	—
LOCK-ON TUBING:		
AZ-1002	—	1
AZ-1003	—	1
AZ-1004	—	1
AZ-1005	—	2
AZ-1006	—	1
AZ-1050	—	3
AZ-1051	—	2
AZ-1052	—	1
AZ-1900	—	4

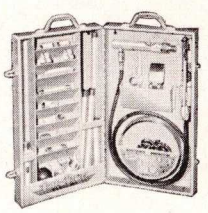
AZ-25 NEW BANTAM SHEET METAL KIT

Here's the low-cost answer to repairing sheet metal damage to cowls, hoods, doors, fenders and quarter panels—and with Bantam Porto-Power you do it far faster. You *spread* with hydraulic "Wedgie" or with spreader toes. *Clamp* with new Clamp Head that also helps you solve many pulling problems. *Push* with Adjustable Body Spoon that efficiently pops out both high or low crown panels—push with Flex-Head, "V" Base, Wedge Head or rubber-faced Flat Base. AZ-25 has quick-connecting Lock-On Tubing to cut job time. Metal Case provides portability.

SA-25 Kit is same as AZ-25 except that it has standard tubing.

No.	Qty. in AZ-25	Qty. in SA-25
AZ-1053	—	1
AZ-1200	1	1
AZ-1308	1	1
AZ-1650	1	1
AZ-1701	1	1
SA-6	1	1
SA-50	1	1
Z-530	1	1
Z-531	1	1
Z-532	2	2
Z-539	1	1
Z-545	1	1
Z-588	1	1
Z-629	1	1
Z-1034	1	1
LOCK-ON TUBING:		
AZ-1002	1	—
AZ-1003	1	—
AZ-1004	1	—
AZ-1005	2	—
AZ-1006	1	—
AZ-1050	3	—
AZ-1051	2	—
AZ-1052	1	—
AZ-1900	4	—
STANDARD TUBING:		
Z-498	—	1
Z-541	—	1
Z-542	—	1
Z-543	—	2
Z-544	—	2
Z-546	—	1





WALL CASE

19582 WALL CASE is completely portable and readily accommodates Bantam Porto-Power assortments. It keeps attachments "ready" for instant selection and use. Neat looking, case hangs on wall or rests on floor. Has hasps for locking. Wall Case is available with any of these Bantam assortments, if desired.

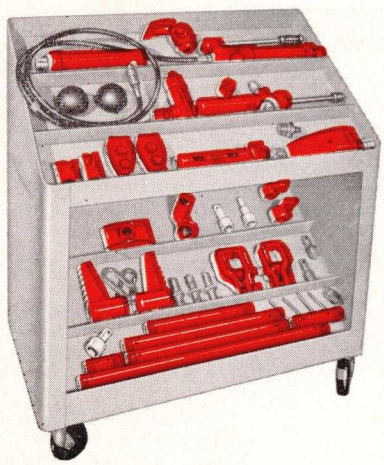
Bantam sets are designed to profitably lick sheet metal repair on all unreinforced body panels. Selected attachments help you recondition panels faster and more economically.

NEW JUNIOR BODY KIT

No.	Qty. in SA-17	Qty. in AZ-17
AZ-1200	1	1
AZ-1308	1	1
SA-50	1	1
Z-530	1	1
Z-531	1	1
Z-532	1	1
Z-539	1	1
Z-545	1	1
Z-629	1	1
Z-1034	1	1
STANDARD TUBING:		
Z-498	1	—
Z-541	1	—
Z-542	1	—
Z-543	1	—
Z-544	1	—
LOCK-ON TUBING:		
AZ-1003	—	1
AZ-1004	—	1
AZ-1005	—	1
AZ-1006	—	1
AZ-1050	—	2
AZ-1051	—	1
AZ-1052	—	1
AZ-1900	—	4

SA-17 is a truly low-priced starter kit for body sheet metal repair. It has all the power (4 tons) and required attachments for fast, efficient reconditioning on doors, cowls, fenders, grilles and quarter panels. With it, you can *push* using Flex-Head, "V"-Base, Wedge Head or rubber-faced Flat Base. New Clamp Head lets you *clamp* with plunger toe and extensions. *Spread* with spreader toes attached to ram collar and plunger. Entire set is packed in sturdy fibre carton. This is the only body-jack set in its price class that is Spee-D-Coupler equipped so that you can add necessary rams and spreaders without having to buy an additional pump for each one!

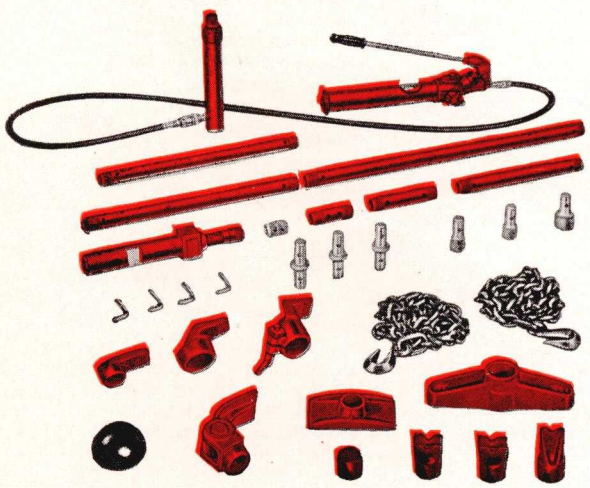
AZ-17 Kit is same as above but includes new time-saving Lock-On Tubing in place of standard tubing.



AZ-10 SUPER PUSH-OR-PULL SET

Here's complete Bantam equipment that includes all of the latest Porto-Power developments. You *pull* with either Fender Clamps or Pull Clamps and RC-640 Pull Ram or with efficient offset pulling set-ups using clamps or pull-clamp attachments with RC-540 Ram. *Push* with Flex-Heads, "V"-Base, Wedge Head, Adjustable Body Spoon, rubber-faced Flat Base or Serrated Saddle. *Spread* with hydraulic Wedgie or spreader toes. *Clamp* using Clamp Head and toe. Set includes fast-acting SA-50 4-ton Hydraulic Unit and time-saving Lock-On Tubing for quick hook-ups. Angl-Stand wheels everything to the job in one trip!

No.	Qty.	No.	Qty.	No.	Qty.	No.	Qty.
AZ-1002	1	AZ-1200	1	AZ-1900	4	Z-533	1
AZ-1003	1	AZ-1250	2	RC-640	1	Z-539	2
AZ-1004	1	AZ-1301	2	RC-618	1	Z-545	1
AZ-1005	2	AZ-1303	2	SA-6	1	Z-588	1
AZ-1006	1	AZ-1304	2	SA-50	1	Z-629	1
AZ-1050	3	AZ-1308	1	Z-530	1	Z-650	1
AZ-1051	2	AZ-1307	2	Z-531	1	Z-1034	1
AZ-1052	1	AZ-1600	1	Z-532	1	Z-1096	1
AZ-1053	2	AZ-1701	1				



AZ-16 BANTAM "ALL-UTILITY" SET

Designed for all-around light sheet metal repair and for mechanical work, this "utility" set is perfect for smaller shops and garages. Larger body shops will want it too as a handy extra for countless minor jobs. You *pull* with chain and pull plate; *push* with Flex-Head, "V"-Base, Wedge Head or Serrated Saddle; *spread* using ram and plunger toes. Powered by SA-50 Hydraulic Unit, Set has Lock-On Tubing. Packed in strong fiber box.

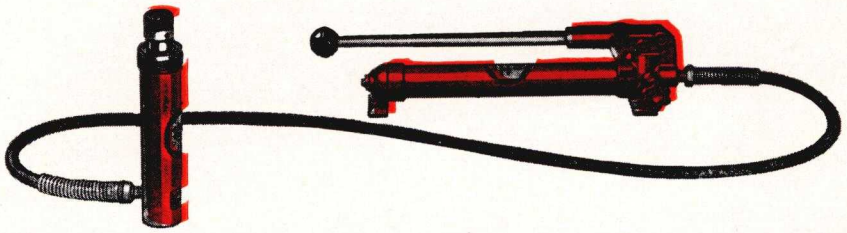
SA-16 Set is same as AZ-16 but has standard tubing instead of Lock-On Tubing.

SA-18 Set is same as SA-16 but includes 19582 Wall Case.

No.	Qty. in AZ-16	Qty. in SA-16
SA-50	1	1
Z-530	1	1
Z-531	1	1
Z-532	2	2
Z-533	1	1
Z-539	1	1
Z-545	1	1
Z-557	2	2
Z-558	1	1
Z-588	1	1
Z-629	1	1
Z-650	1	1
Z-1034	1	1
Z-1035	1	1
LOCK-ON TUBING:		
AZ-1002	1	—
AZ-1003	1	—
AZ-1004	1	—
AZ-1005	2	—
AZ-1006	1	—
AZ-1050	3	—
AZ-1051	2	—
AZ-1052	1	—
AZ-1900	4	—
STANDARD TUBING:		
Z-498	—	1
Z-541	—	1
Z-542	—	1
Z-543	—	2
Z-544	—	2
Z-546	—	1

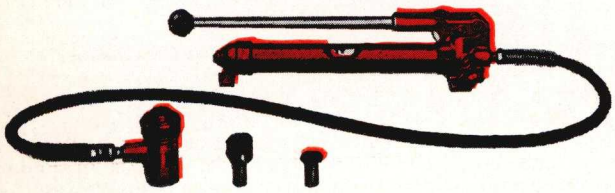
This is the world's most complete and practical line of 10-ton body jack equipment. With exclusive Spee-D-Coupler, you need only one low-cost pump to handle any of six rams.

S-71 10-Ton Hydraulic Unit



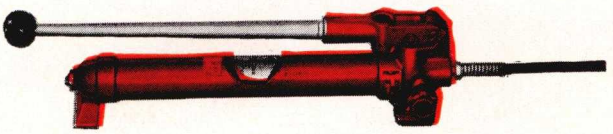
Includes P-76 Pump, Z-913 Hose with exclusive Spee-D-Coupler and RC-159 10-ton Ram. Furnished in assortments listed on pages 16, 17, 18. Utilizes wide range of 10-ton attachments (see opposite page). RC-159 Ram is interchangeable with RC-75, RC-426 and R-263 Rams, SA-4 "Wedgie" and SA-7 "Spred" Ram. P-76 Pump also serves RC-251 Ram (page 20) if 20 tons of power is desired. Rams are all-directional and single hose with swiveling Spee-D-Coupler gives faster, easier handling. Net weight of 10-ton S-71 Hydraulic Unit is only 36 lbs.

S-76 7-Ton Hydraulic Unit



Has P-76 Pump, Z-913 Hose with Spee-D-Coupler and RC-75 Ram. Ram includes R-75.38A adaptor for 10-ton attachments and R-75.45A serrated saddle. Ram collar threaded for attachments. Used in small spaces, RC-75 is only 4½" high. Net weight is only 30 lbs.

P-76 Hand-operated Pump



Serves the popular range of rams and spreaders shown on this page plus RC-251 20-ton Ram (page 20). Has base pads that fit into special brackets for mounting on Bench-Rack, Porto-Power stands or workbenches. P-76 has single valve control; single speed; develops 10,000 p.s.i.

RC-159 10-Ton "Retracto" Ram

All-purpose "Retracto" Ram for most body work and mechanical repair. Threaded on plunger, collar and inside base to fit with 10-ton attachments. Bored out of solid round steel stock, ram has no seams, no plugs—no leakage due to porous walls.

RC-75 7-Ton "Shorty" Ram

For small, tight spots where larger rams won't fit, RC-75 is only 4½" high when collapsed. Male adaptor and ram collar threaded for 10-ton attachments. Handy for auxiliary frame work, pushing shafts, etc.

See application, Page 42.

RC-426 10-Ton Hollow Pull Ram

A Push-Pull "Retracto" Ram for direct pushing and pulling with a pull bolt. Plunger has same collar thread size as RC-159. Dia. of hole through plunger and ram body is .635". Frequently used for pulling bearings and inserts.

R-263 Midget Ram

Exclusive, 1 11/16" high "midget" ram is the answer to troublesome buckles on "X" frames and for other tight-squeeze work. Has two-foot semi-rigid hose with Spee-D-Coupler that guides ram into cramped spots. Served by P-76 Pump.

SA-4 "Wedgie"

Amazing Wedgie with BUILT-IN RAM is fast, low-cost answer to troublesome dents, creases in doors and body sections. Forged jaws open from ⅜" to 3¾", close automatically.

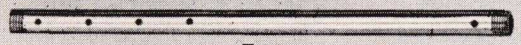
SA-7 "Spred" Ram

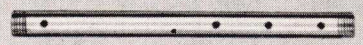
Long reach, wide range spreader with BUILT-IN RAM for bringing out dents in deep fenders, panels. Only 1" at tip with arms closed, spreads to full 11¾". Use with FZ-1700 Base.

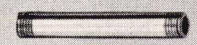
Further information on pump and rams, Page 22; spreaders, Page 19.

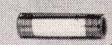
Built for rugged service, these job-engineered attachments are used with RC-75 and RC-159 Rams (pg. 12). They can be purchased singly or in complete assortments (pp. 16, 17, 18). All have 1¼" standard pipe thread. Each attachment is engineered with a wide safety margin using highest quality material. No excessive bulk, no cumbersome designs!

ALL-PURPOSE ATTACHMENTS


Z-24
30" Extension Tube


Z-25
20" Extension Tube

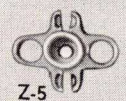

Z-26
10" Ext. Tube

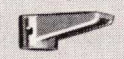

Z-27
5" Ext. Tube

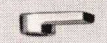
Z-21
Lock Pin

Z-10
Connector

Z-16
90° "V" Base


Z-5
Chain Plate


Z-8
Clamp Toe


Z-9
Plunger Toe

Z-14
Flat Base

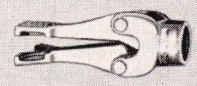
Z-30
Ram Toe

Z-34
Saddle

Z-36
Coupling

Z-45
Press Adaptor

Z-50
3" Ext. Tube


Z-92
Duck Bill Spreader

Z-109
4x6" "C" Clamp

Z-110
"V" Block

Z-128
3¼" dia.
Flex-Head

Z-129
Wedge-
Head

Z-131
5" dia.
Flex-Head

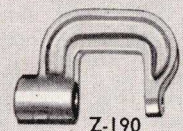
Z-132
Chain Pull Plate

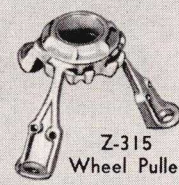
Z-141
7-ft. Chain

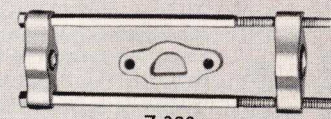
Z-143
"C" Clamp
Adaptor

Z-170
Adj. Body
Spoon

Z-144
Frame Clamp Plate


Z-190
3x4" "C" Clamp


Z-315
Wheel Puller


Z-328
King Pin Remover

Z-305
Spreader Toe

Z-306
Roof Spoon

Z-307
Cowl Spoon

Z-308
Adj. Roof Spoon

Z-309
Adj. Cowl Spoon

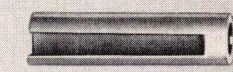
Z-192
Clamp Head

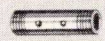
Z-285
Slip Lock Ext.

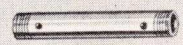
Z-183
11/16" dia.
Pusher Pin

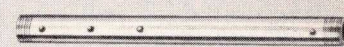
Z-184
½" dia.
Pusher Pin

Z-185
Smooth
Saddle

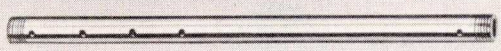

FZ-1700
Ram Base Extension

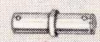

FZ-1002
5" Ext. Tube


FZ-1003
10" Ext. Tube


FZ-1004
20" Extension Tube

LOCK-ON ATTACHMENTS


FZ-1005
30" Extension Tube


FZ-1050
Lock-On Connector

FZ-1051
Male Adaptor

FZ-1052
Female
Adaptor

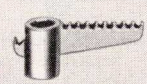
PULL-CLAMP ATTACHMENTS

FZ-1300
Large Clamp Plate

AZ-1300
Small Clamp
Plate

AZ-1301
Clamp
Adaptor

FZ-1301
Clamp
Pusher Head


FZ-1250
Offset
Pull Toe

AZ-1307
Clamp Link

AZ-1303
Fender
Clamp

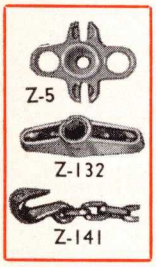
AZ-1304
Pull Clamp

The profit story on these attachments is on Pages 14 and 15.

For low-cost body and mechanical repairs, equip yourself with these

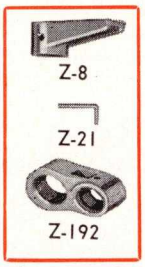
TIME AND MONEY-SAVING ATTACHMENTS

HEAVY-DUTY PULLING POSSIBLE WITH CHAINS AND PULL PLATES



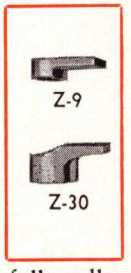
Chain and Chain Pull Plates provide a fast, efficient method of pulling when repairing frame, mechanical or reinforced sheet metal parts. Chains allow infinitely adjustable set-ups for heavy-duty pulling with full 10 tons of hydraulic power produced by Porto-Power rams. How chain and pull plates hook-up to either RC-159 or RC-75 rams is illustrated on Page 27. Pictures showing on-the-job applications of chain being used with 10-ton Porto-Power appear on Pages 33 (lower photos), 34 (upper left), 35 (lower left) and 40 (lower left).

HERE'S WIDE SPAN CLAMPING TO SIMPLIFY REPAIR PROBLEMS



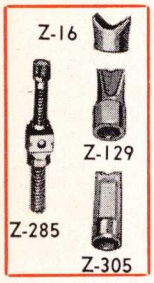
Body reconditioning operations often require clamping combinations that cover greater spans than are possible with "C" Clamps (see below). Z-8 Clamp End Toe, Z-192 Clamp Head and Z-21 Lock Pin enables body men to make quick set-ups for medium-duty pulling and clamping. Large drawing on Page 25 shows frequently used clamping span from rocker panel to rocker panel. Clamping hook-up, using these attachments with RC-159 ram, appears on Page 31. These versatile clamping attachments are included in all 10-ton sets of Porto-Power equipment.

THIS LOW COST COMBINATION SPREADS IN MANY WAYS



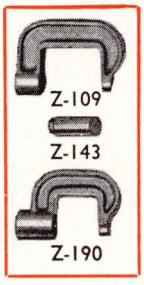
Here's effective spreading with full 10 tons of hydraulic power. These spreader toes make low-cost spreading set-ups with RC-159 ram and extensions when needed. Page 30 illustrates typical combination using Z-9 Plunger Toe and Z-30 Ram Toe. With a spreading range from 1" (ram fully collapsed) to 7", they handle a variety of heavy jobs. Pictures (upper left) on Pages 39 and 40 illustrate working applications. Starting span between toes can be adjusted by attaching proper length of extension tubing between ram plunger and Plunger Toe to fit different spreading jobs.

SAVE SET-UP TIME WITH THESE HANDY ATTACHMENTS



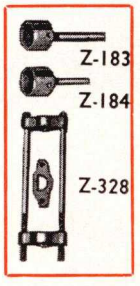
Without disassembling combination, Slip Lock Extension permits body men to adjust set-up lengths an additional 6" beyond ram travel. Screw adjustment allows very close setting of Z-285 assuring full use of ram travel. Made of high grade, heat-treated steel; "V" Base, Wedge Head and Spreader Toe are designed to anchor combinations against frame members and braces. Large photo on Page 36 shows "V"-Base in action. Set-ups often require "V"-Bases or Wedge Heads on both ends for proper grip.

"C" CLAMPS SOLVE VARIETY OF CLAMPING REQUIREMENTS



"C" Clamps are used with Pusher Pins like Z-143 for shackle pin removal in replacing leaf-type truck springs. Clamps may also be threaded to RC-75 "Shorty" Ram for frame straightening (see lower right photo, Page 42) and for other clamping jobs. Diagram of clamping hook-up with either Z-109 (4" x 6") or Z-190 (3" x 4") "C" Clamps appears on Page 31. Z-109 Clamp is included in FZ-31 Assortment (Page 16) and both are in S-200 (Page 18). Clamps may also be purchased individually.

10-TON PORTABLE PRESS SPEEDS ON-THE-JOB REPAIR

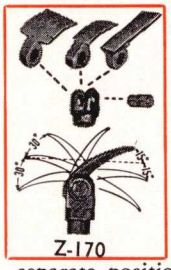


Here's a handy portable press for removal of truck or tractor king pins in the shop or in the field. Z-328 is used with RC-159 ram. It also quickly removes truck spindle pins when equipped with Z-183 ($\frac{11}{16}$" dia.) or Z-184 ($\frac{1}{2}$" dia.) Pusher Pins. Diagram of typical press hook-up with Pusher Pin and 10-ton ram is shown on Page 31. Two yokes with different openings are available with Z-328 to fit various types of pressing operations. Available singly or in S-200 Super De Luxe Assortment (Page 18).

FLEX-HEADS SHAPE TO EVERY SURFACE—WON'T SCRATCH, MAR

Blackhawk's exclusive, spherically-shaped "dome design" Flex-Heads fit all contours of doors, windows and other body sections. Special flexible material protects surfaces and prevents slipping under full 10 tons of hydraulic pressure. Available in two handy sizes, 5" dia. (Z-131) and 3¼" dia. (Z-128). Flex-Heads are easy to install in push, spread and clamp hook-ups, as diagramed on Pages 28, 29, 30 and 31. Flex-Heads at work are pictured on Pages 40 (upper center and lower right), 42 (lower left) and 43.

ADJUSTABLE BODY SPOONS RESTORE ALL PANEL SHAPES



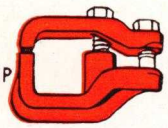
One fork and one pin serve three body spoons, each shaped to handle different contours. Each spoon can be adjusted on fork to 14 practical working positions to efficiently restore original curvature of body panels. With 3 spoons, this makes a total of 42 separate positions for more profitable repair. Each spoon may also be used as a dolly when assembled to a short length of tubing. See diagrams with Body Spoons on Page 29. On-the-job photos are on Pages 36 and 43.

PULL WHEEL HUBS THE QUICK EASY HYDRAULIC WAY

Z-315 Wheel Puller attachment enables mechanics to slide off wheel hubs quickly without harmful knocking or damaging of threads. No damage to internal axle parts! Blackhawk's Wheel Puller with 10-ton Porto-Power removes hubs from all cars and trucks having hubs pressed on tapered shafts. Fleet shops find it a valuable tool for safe, fast hub removal on trucks and busses—heavy or light. Z-315 is included in S-200 Super De Luxe Assortment (Page 18).

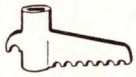
For faster work! More compact set-ups! Better workmanship on tough, reinforced metal sections!

NEW MULTIPLE-PURPOSE PULL CLAMPS

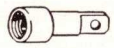


AZ-1303 FENDER CLAMP

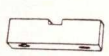
AZ-1307 CLAMP LINK



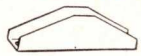
FZ-1250 PULL TOE



AZ-1301 ADAPTOR

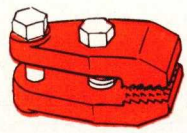


AZ-1300 PULL CLAMP PLATE (Small)



FZ-1300 PULL CLAMP PLATE (Large)

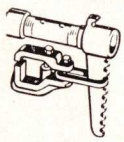
FZ-1301 EDGE CLAMP PUSHER HEAD



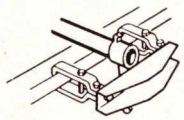
AZ-1304 PULL CLAMP

Basic set-ups with 10-Ton Pull-Clamp Attachments

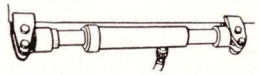
Single Offset Pull



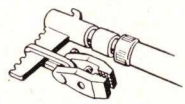
Multiple Offset Pull



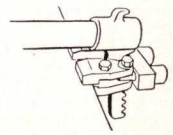
For Panel Edge Alignment



Single Offset Pull



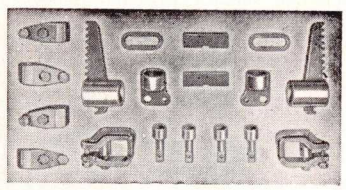
Multiple Offset Pull



Blackhawk's pull-clamp attachments help you pull even more ways with 10-ton Porto-Power on all heavy, reinforced metal sections. Pull-Clamp hook-ups pull damaged metal from outside the panel—they are job-engineered to pull damaged sections into alignment all in one, single operation. Check these unmatched, profit-building features:

1. Offset pull hook-ups snap damaged metal back into alignment without stretching or distortion.
2. Offset Pull Toes make set-ups completely adjustable for pulling across either high or low crown heavy, reinforced body sections.
3. With small or large Pull Plates, body men assemble narrow or wide-span, double clamp hook-ups for various forms of damage on reinforced metal. Both Fender and Pull-Clamps are used in dual set-ups.
4. Pull-Clamps withstand hammer vibrations under hydraulic pressure because of their sharp, forged, cross-milled jaws and twin-bolt locking that provide a sure grip.
5. Fender Clamps reach over all beaded sections—jaws are milled and adjustable for positive, non-slip grip.

No.	Q'ty.
AZ-1300	2
AZ-1301	4
AZ-1303	2
AZ-1304	4
AZ-1307	2
FZ-1250	2
FZ-1301	2

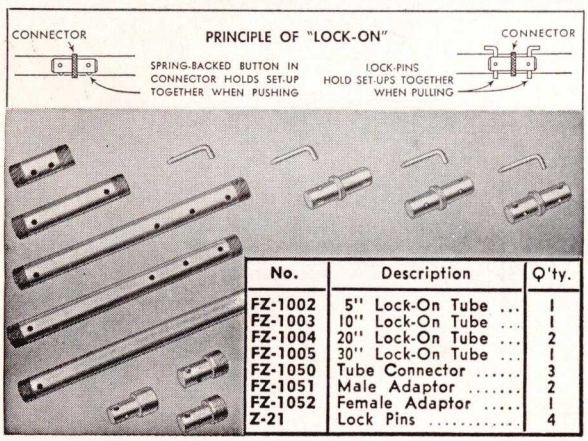


FZ-13 10-TON PULL-CLAMP ASSORTMENT

Everything needed to broaden the work range of your 10-ton Porto-Power equipment is included in this pull-clamp set. The new clamps let body men recondition body sections far better and more efficiently. And each attachment is designed to cut set-up time! This 10-Ton Pull-Clamp Ass't. is essential to handle heavier gauges of metal and for panels welded to interconstruction, pillars and brackets.

For all the ways to pull with Porto-Power, see Pages 32-35.

NEW TIME-SAVING 10-TON LOCK-ON TUBING


CONNECTOR
PRINCIPLE OF "LOCK-ON"
CONNECTOR
SPRING-BACKED BUTTON IN CONNECTOR HOLDS SET-UP TOGETHER WHEN PUSHING
LOCK-PINS HOLD SET-UPS TOGETHER WHEN PULLING

No.	Description	Q'ty.
FZ-1002	5" Lock-On Tube	1
FZ-1003	10" Lock-On Tube	1
FZ-1004	20" Lock-On Tube	2
FZ-1005	30" Lock-On Tube	1
FZ-1050	Tube Connector	3
FZ-1051	Male Adaptor	2
FZ-1052	Female Adaptor	1
Z-21	Lock Pins	4

No need to screw together for pull, push and spread set-ups! Cuts assembly time!

You just slide them together and *presto!* tubing and attachments are "locked." Blackhawk's new Lock-On equipment can't be accidentally dis-engaged in push or spread combinations. Extensions are cross-drilled for Lock Pins (see diagram at left) which hold set-ups together when pulling or clamping. Male and female Lock-On Adaptors make connecting tubing to rams and attachments quick and easy! Made of high quality steel, Lock-On Extensions cut job time both in direct and normal offset applications.

FZ-14 10-Ton Lock-On Tubing Set contains 15 vital units to speed up assembly with your present 10-ton Porto-Power. All extensions are reamed on inside for close tolerance and easy changeability. They're threaded on outside for use with conventional Porto-Power. Reduce the set-up time of each of your body men with a Lock-On Tubing Set.

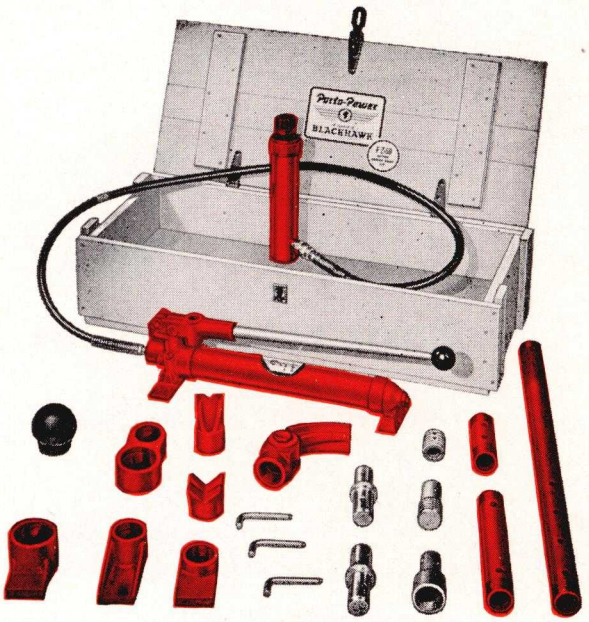
Only Blackhawk offers you matched sets of body jack equipment without duplication or any unnecessary attachments. Just the items needed for a specific range of work are included. Select the set that meets your requirements.

FZ-59 JUNIOR BODY ASSORTMENT

Here's an assortment of select Porto-Power equipment for major body reconditioning, emergency tow-truck service, farm implement and tractor repair. It has basic 10-ton attachments that are used with S-71 10-ton Hydraulic Unit to *push* using Adjustable Body Spoon, "V"-Base, Wedge Head, Flex-Head or Flat Base. You *spread* with spreader toe and *clamp* with Clamp Head and End Toe. Time-saving Lock-On Tubing helps body men assemble combinations up to twice as fast. All attachments plus S-71 Hydraulic Unit fit easily into portable, reinforced 19533 wood case.

S-59 Assortment is the same as FZ-59 but has standard tubing instead of Lock-On Tubing. All other attachments and units are identical. See contents of both assortments listed in table below.

No.	Description	Qty. In FZ-59	Qty. In S-59	No.	Description	Qty. In FZ-59	Qty. In S-59
FZ-1002	5" Lock-On Ext.	1	—	Z-21	Lock Pin	3	2
FZ-1003	10" Lock-On Ext.	1	—	Z-24	30" Steel Tube	—	1
FZ-1005	30" Lock-On Ext.	1	—	Z-26	10" Steel Tube	—	1
FZ-1050	Lock-On Connector.	2	—	Z-27	5" Steel Tube	—	1
FZ-1051	Male Adaptor	1	—	Z-30	Ram Toe	1	1
FZ-1052	Female Adaptor	1	—	Z-36	Tube Coupling	—	1
S-71	10-T. Hydraulic Unit	1	1	Z-128	3¼" Flex-Head	1	1
Z-8	Clamp End Toe	1	1	Z-129	Wedge Head	1	1
Z-9	Plunger Toe	1	1	Z-170	Adj. Body Spoon	1	1
Z-10	Short Connector	1	1	Z-192	Clamp Head	1	1
Z-16	90° "V" Base	1	1	19533	Wood Case	1	1



19533 Case conveniently holds all equipment included in these sets. With reinforced wood construction, case is 33⅞" long, 13⅛" wide, 7⅞" high.

FZ-31 HEAVY-DUTY ASSORTMENT

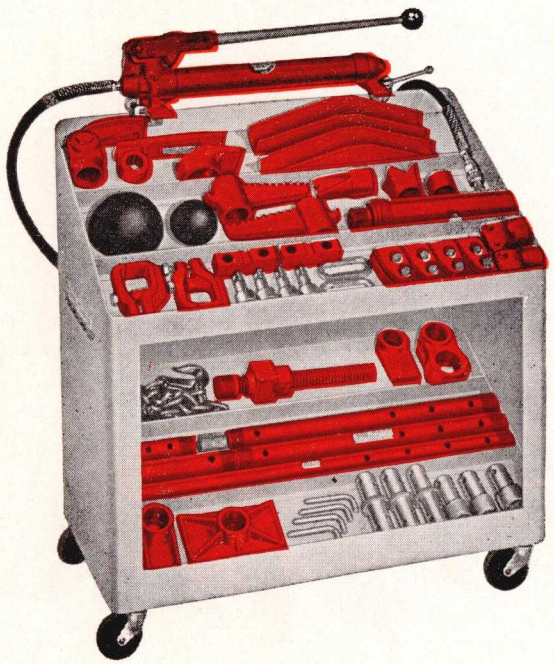
This kit of vital attachments, powered by the general-purpose S-71 10-ton Hydraulic Unit, handles a big range of major reconditioning. You can use it for auxiliary frame work, too, to supplement your standard frame equipment. And it has all the equipment every farm implement repair shop needs. FZ-31 lets you *pull* with chain and Chain Plate. *Push* with Flat Base, "V"-Base, Wedge Head, Pusher Pin or Smooth Saddle. *Clamp* with "C" Clamp or with Clamp Head and Toes. "C" Clamp also makes quick work of leaf-spring pin removal and similar jobs. You *spread* with spreader toes. Packed in 19533 portable, reinforced wooden case.

S-31 Kit is same as FZ-31 but has standard tubing instead of Lock-On Tubing. All other attachments are identical. Contents of both kits listed in table below.

No.	Description	Qty. In FZ-31	Qty. In S-31	No.	Description	Qty. In FZ-31	Qty. In S-31
FZ-1002	5" Lock-On Ext.	1	—	Z-25	20" Steel Tube	—	1
FZ-1003	10" Lock-On Ext.	1	—	Z-26	10" Steel Tube	—	1
FZ-1004	20" Lock-On Ext.	1	—	Z-27	5" Steel Tube	—	1
FZ-1005	30" Lock-On Ext.	1	—	Z-30	Ram Toe	1	1
FZ-1050	Lock-On Connector.	2	—	Z-36	Tube Coupling	—	2
FZ-1051	Male Adaptor	2	—	Z-50	3" Steel Tube	—	1
FZ-1052	Female Adaptor	1	—	Z-109	"C" Clamp, 4x6"	1	1
S-71	10-T. Hydraulic Unit	1	1	Z-129	Wedge Head	1	1
Z-8	Clamp End Toe	1	1	Z-132	Chain Pull Plate	1	1
Z-9	Plunger Toe	1	1	Z-141	7-ft. Chain	2	2
Z-10	Short Connector	1	1	Z-183	Pusher Pin, 11/16" dia.	1	1
Z-14	Flat Base	1	1	Z-185	Smooth Saddle	1	1
Z-16	90° "V" Base	1	1	Z-192	Clamp Head	1	1
Z-21	Lock Pin	4	2	19533	Wood Case	1	1
Z-24	30" Steel Tube	—	1				

These 10-ton sets are designed to efficiently solve reconditioning problems on all 21 major body sections of today's cars. Make faster hook-ups for more profitable repair.

ALL NEW!



Z-1096 Wheeled Angl-Stand is of heavy-gauge steel with two sloping shelves divided into six handy sections. Finished in gleaming white enamel. Can be ordered with any Porto-Power set or assortment—or individually. Stand is 16" wide, 32" high, 30¼" long and has two 3" swivel and two fixed rubber-tired wheels.

FZ-48 HEAVY DUTY PUSH-OR-PULL SET

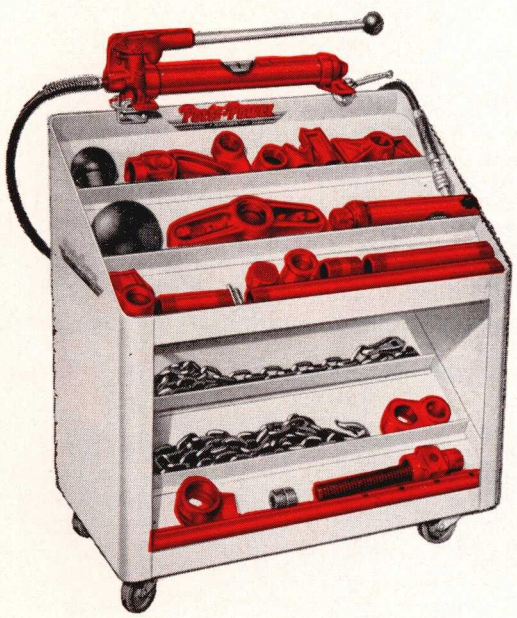
This versatile assortment contains all the latest Porto-Power developments to help you solve major body repair problems faster. With new offset pulling combinations, you cut parts replacements way down. Powered with dependable S-71 10-ton Hydraulic Unit, FZ-48 has everything needed for speedy body reconditioning and mechanical repair.

"Push-or-Pull" Set lets you *pull* with new pull-clamp attachments in single or multiple hook-ups (page 15), or with chain and Chain Plate. *Push* with Adjustable Body and Cowl Spoons, Flex-Heads, Wedge Head, "V"-Base, Flat Base or Serrated Saddle. Edge-Clamp Pusher Heads adapt new Pull Clamps to panel edge alignment—a really handy set-up that gives better roughout work yet cuts job time! *Clamp* with Clamp Head and Toes. *Spread* with Spreader Toes. And time-saving Lock-On Tubing enables body men to reduce set-up time substantially on all jobs.

To speed up on-the-car work, FZ-48 Set fits neatly into compact Z-1096 Angl-Stand that wheels all your Porto-Power right to the job in one trip! Everything is within easy reach on handy, sloping shelves.

FZ-49 Push-or-Pull Set is identical with FZ-48 but includes 19533 Wood carrying Case instead of Angl-Stand. Contents of attachments in both assortments are given in table that follows.

No.	Description	Qty.	No.	Description	Qty.
AZ-1300	Small Pull Plate	2	S-71	10-T. Hydraulic Unit	1
AZ-1301	Clamp Adaptor	4	Z-8	Clamp End Toe	1
AZ-1303	Fender Clamp	2	Z-9	Spreader Plunger Toe	1
AZ-1304	Pull Clamp	4			
AZ-1307	Clamp Link	2	Z-10	Short Connector	1
FZ-1002	5" Lock-On Ext.	1	Z-14	Flat Base	1
FZ-1003	10" Lock-On Ext.	1	Z-16	90° "V" Base	1
FZ-1004	20" Lock-On Ext.	2	Z-21	Lock Pin	4
FZ-1005	30" Lock-On Ext.	1	Z-30	Spreader Ram Toe	1
FZ-1050	Lock-On Connector.	3	Z-34	Serrated Saddle	1
FZ-1051	Lock-On Male Adaptor	2	Z-128	3¼" Flex-Head	1
			Z-129	Wedge Head	1
FZ-1052	Lock-On Female Adaptor	1	Z-131	5" Flex-Head	1
			Z-141	7-ft. Chain	1
FZ-1250	Offset Pull Toe	2	Z-170	Adjustable Body Spoon	1
FZ-1300	Large Pull Plate	2			
FZ-1301	Edge Clamp Pusher Head	2	Z-192	Clamp Head	1
			Z-307	Cowl Spoon	1



S-45 SUPER CUSTOM ASSORTMENT

A long-time favorite of body men everywhere, the S-45 gives body shops, car dealers and garages a select set of Porto-Power to profitably do major reconditioning and repairing—plus scores of shop operations. It has 25 basic attachments to help you do professional work. You *pull* with chain and Chain Pull Plate; *push* with Adjustable Body Spoon, Flat Base, Flex-Heads, "V"-Base, Wedge Head and Serrated Saddle; *Clamp* with Clamp Head and Toes; and *spread* with Spreader Toes.

Z-1096 Angl-Stand adds versatility and utility to the entire ass't. It snaps up shop appearance—keeps body jack equipment ready for fast, economical body work. Set includes the all-purpose S-71 Hydraulic Unit plus S-87 Asst. of attachments and Z-1096 Stand listed below.

No.	Description	Qty.	No.	Description	Qty.
S-71	Hydraulic Unit	1	Z-34	Serrated Saddle	1
Z-8	Clamp End Toe	1	Z-36	Tube Coupling	2
Z-9	Plunger Toe	1	Z-50	3" Steel Tube	1
Z-10	Short Connector	1	Z-128	3¼" Flex-Head	1
Z-14	Flat Base	1	Z-131	5" Flex-Head	1
Z-16	90° "V" Base	1	Z-132	Chain Pull Plate	1
Z-21	Lock Pin	2	Z-141	7-ft. Chain	2
Z-24	30" Steel Tube	1	Z-170	Adj. Body Spoon	1
Z-25	20" Steel Tube	1	Z-192	Clamp Head	1
Z-26	10" Steel Tube	1	Z-285	Slip Lock Extension.	1
Z-27	5" Steel Tube	1	Z-305	Spreader Toe	1
Z-30	Ram Toe	1	Z-1096	Angl-Stand	1

Porto-Power wheeled assortments are your "workshop on wheels" complete with heavy-duty 10-ton press for both on-the-car body reconditioning and mechanical repair.

S-200 SUPER DE LUXE ASSORTMENT

Yours for the maximum in money-making and work saving opportunities—that's this unmatched, hydraulic "workshop on wheels," the Super De Luxe S-200 Assortment.

Here is all the Porto-Power body jack equipment every modern, alert body shop, car dealer and garage needs for profitable reconditioning, mechanical and shop work. S-200 is selected and designed to help you win competitive bidding.

Rams included in S-200 are 4-ton "Midget," SA-4 "Wedgie," and 7 ton Short Ram . . . plus the all-purpose RC-159 which is part of S-71. There are 51 field-tested attachments as listed in table below. Utility of Z-333 Stand and Z-339 Press is pictured elsewhere on this page. Press specifications appear on page 21.

With an outstanding record of top-flight service in hundreds of body shops, the S-200 provides an array of attachments and basic hydraulic rams to equip you to handle every pushing, pulling, bending, lifting, clamping and pressing job. In addition, there's the universal S-71 hydraulic unit—an all-modern, handy Pylon Stand (see below)—and a versatile, 10-ton press.

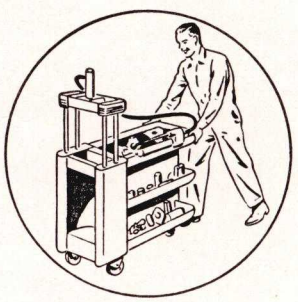
S-100 DE LUXE WHEELED ASSORTMENT

Another big, money-making "workshop on wheels!" Similar to S-200 (above) except for fewer attachments and just one ram. S-100 does not include special items for mechanical work like Wheel Puller, King Pin Remover, Press Pusher Pins, large-size Clamp and Clamp Plates. But everything needed for major body reconditioning is available in this truly "de luxe" wheeled asst.—35 vital attachments (listed in table), Z-333 Pylon Stand and Z-339 10-ton Press.

ATTACHMENTS FURNISHED IN S-200, S-100

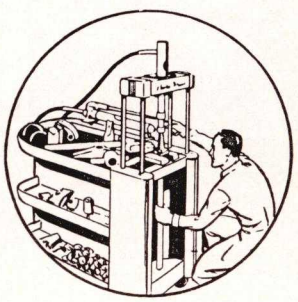
Model No.	Description	Qty. in S-200	Qty. in S-100	Model No.	Description	Qty. in S-200	Qty. in S-100
Z-5	Chain Pull Plate	2	2	Z-144	20" Frame Clamp Plate	1	–
Z-8	Clamp End Toe	1	1	Z-170	Adjustable Body Spoon	1	1
Z-9	Spreader Plunger Toe	1	1	Z-183	Pusher Pin (11/16" dia.)	1	–
Z-10	Short Connector	1	1	Z-184	Pusher Pin (1/2" dia.)	1	–
Z-14	Flat Base Plate	1	1	Z-185	Smooth Pusher Head	1	–
Z-16	90° "V" Base	2	1	Z-190	Frame Clamp (3" x 4")	1	–
Z-21	Clamp Toe Lock Pin	2	2	Z-192	Ext. Tube Clamp Head	1	1
Z-24	30" Steel Tube	2	1	Z-285	Slip-Lock Extension	1	1
Z-25	20" Steel Tube	1	1	Z-305	Spring Spreader Toe	2	2
Z-26	10" Steel Tube	1	1	Z-306	Roof Spoon	1	1
Z-27	5" Steel Tube	1	1	Z-307	Cowl Spoon	1	1
Z-30	Spreader Ram Toe	1	1	Z-315	Wheel Hub Puller	1	–
Z-34	Serrated Saddle	1	1	Z-328	Truck & Passenger Car King Pin Remover	1	–
Z-36	Tube Coupling	2	2	R-263	4-ton Midget Ram & Hose	1	–
Z-50	3" Steel Tube	1	1	RC-75	7-ton Short Ram	1	–
Z-109	Frame Clamp (4" x 6")	1	1	SA-4	Wedgie	1	–
Z-110	Press "V" Block	2	2				
Z-128	3¼" Flex-Head	2	1				
Z-129	Wedge Head	1	1				
Z-131	5" Flex-Head	2	1				
Z-132	Chain Pull Plate	1	1				
Z-141	7' Chain with Grab Hook	2	2				
Z-143	Frame Clamp Adaptor	1	1				

ATTACHMENTS OUT IN OPEN for quick, easy selection. No doors to open or corners to hide equipment.



ROLL IT TO JOB! Take complete assortment right to job site. Save steps—lugging—easy to move around!

Z-333 PYLON STAND is of heavy-gauge steel, enameled WHITE, with handsome chrome trim. It rolls all Porto-Power equipment to the job at one time. Stand has roomy top tray. Each side of Stand has two lower, open side trays. Black ribbed-rubber matting is provided on each tray. Stand is 43⅝" long, 20" wide, 29½" high, and has non-metallic, 4" dia. wheels. Two wheels are stationary while one swivels for easy steering. Pylon Stand accommodates Z-339 Press as shown. Press data is on page 21.

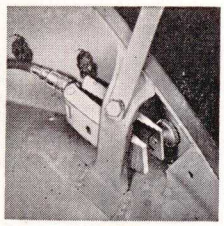


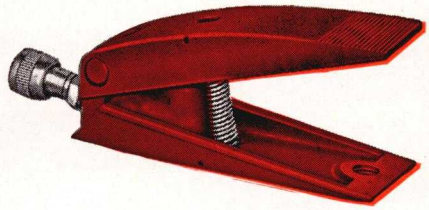
PRESS IS HANDY for on-the-job straightening, bending, etc. Rigidly constructed for heavy work.

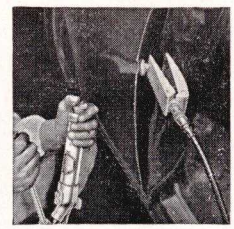
Only Blackhawk offers you such a complete line of hydraulic spreaders and spreading equipment to boost shop earnings by speeding repair on hard-to-get-at body sections.

"WEDGIE" slips in where other tools can't go, works smooth and fast!

SLIPS IN where other tools can't go—and with Picks like this Mushroom, the Wedgie whips a tough job without distorting the metal. No prying, hammering.







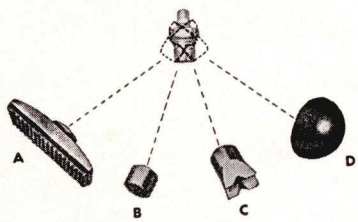
FENDER CREASES like this are easy to "walk out" with Wedgie and Picks. No room for hammer or dolly but Wedgie slips in easily.

Ideal for spreading around cowls, doors, deck lids, inside trunks, etc., Wedgie is fast, profitable answer to dents, creases or kinks. BUILT-IN-RAM opens jaws from a slim 3/8" to 3 3/4". Jaws close automatically. Only 2" wide, 6 1/2" long and 2" high at its tallest point: weighs just 4 1/2 lbs. Top jaw is curved for dollying, serrations give positive grip.

SA-4 WEDGIE has ZR-400 coupler for P-76 Pump and Z-913 Hose.

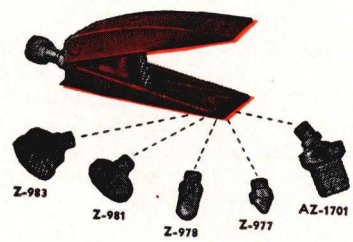
SA-6 WEDGIE has ZR-630 coupler for P-400 Pump and Z-864 Hose.

New AZ-1701 Swivel Connector



A "ball & socket" coupling that threads to jaw of SA-4 or SA-6 Wedgie, enables you to use attachments like Flat Base (A), Serrated Saddle (B), V-Base (C) and Flex-Head (D) with it for working out odd surfaces inside doors, cowls. Short tubing can also be used for larger spreading spans.

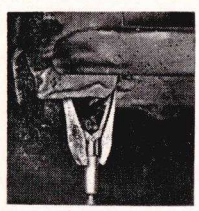
New SA-9 Wedgie "Pick" Set



Be equipped to handle dents and creases in any tight spot with this handy "Pick" Set that includes Z-983 Rocking Pick, Z-981 Mushroom, Z-978 Round Pick, Z-977 Cone and AZ-1701 Swivel Connector plus SA-6 Wedgie (served by P-400 Pump). For SA-4, Picks may be ordered singly.

SA-7 "SPRED" RAM reaches into deep sections, gets out bad dents

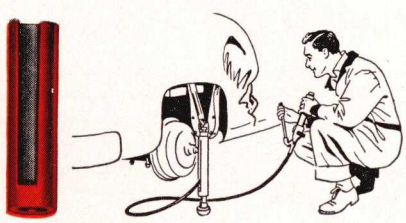
SUPER SPREAD of 11 3/4" is just right for smashed fenders. It's a real time and work saver! Many fenders are often "brought out" in *just one* setting!



LONG REACH of SA-7 (over 19") lets it work right where it's needed! And makes it speedy on bad fender bashes, makes initial dollying, hammering unnecessary.

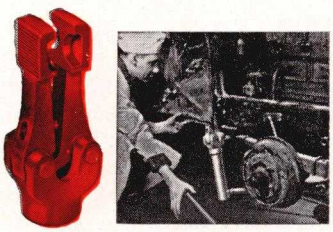
This remarkable Blackhawk SPRED RAM is supreme in the body repair field! Only SA-7 has super-long reach of 19 1/4" yet opens to a full 11 3/4". With arms closed, it measures a mere 1" at tip and is only 5" at its widest point. Arms close automatically. And with its BUILT-IN RAM, its a complete unit ready for instant use simply by connecting to your pump and hose (Bantam or 10-Ton) with Spee-D-Coupler. SA-7 reaches into narrow openings in deep fenders to bring out bad bashes easily, without tearing or shearing. Specify ZR-400 coupler half for P-76 Pump; ZR-630, for P-400 Pump.

FZ-1700 Extension for Spred-Ram



Now SA-7 can rest on floor for easy one-man operation. FZ-1700 slips over ram and hose of Spred-Ram. It is threaded to connect tubing or Flex-Head at base end (see drawing) to support weight of set-up. Long slot permits hose to clear freely.

Z-92 Duck-Bill Spreader



An economical sheet metal spreader. It has 6" spread to handle many fender and quarter panel dents. Tips are serrated. Entire unit threads to 10-ton ram.

Spreading applications with Wedgie & Spred-Ram are shown on Pages 30, 38, and 41.

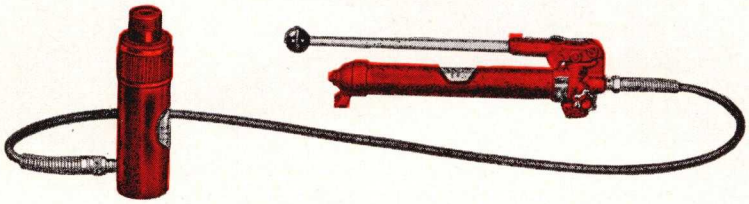
HEAVY-DUTY Porto-Power

20 & 50 TON CAPACITY

All units shown here are equipped with exclusive Spee-D-Coupler. This 20 & 50-ton Porto-Power has the same world-famous features found in Bantam and 10-ton, providing dependable heavy-duty hydraulic power.

20-ton Porto-Power offers a complete line for rugged jobs

S-78 20-Ton Hydraulic Unit



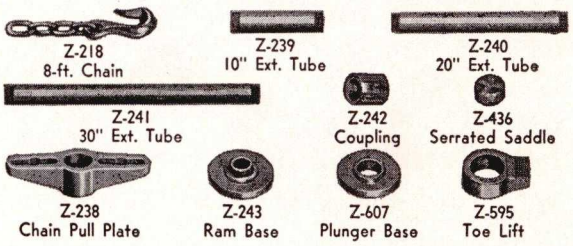
Like its "brothers" in the smaller capacities, 20-ton Porto-Power offers a compact pump-hose-and-ram unit plus a complete range of durable attachments for reconditioning and auxiliary frame work on heavy vehicles. Attachments (shown below) are safe, sturdy and can be purchased singly, as required, or in assortments described on page 24.

Including P-76 Pump, Z-913 Hose with Spee-D-Coupler and RC-251 Ram; this 20-ton hydraulic unit is furnished in S-79 and S-36 assts. (page 24). Single valve control on pump. Attachments listed below can be used with RC-251 Ram to push, pull, lift, spread or press. Same hose and pump can be used with 7 and 10-ton rams described on page 12.

RC-251 20-Ton Ram

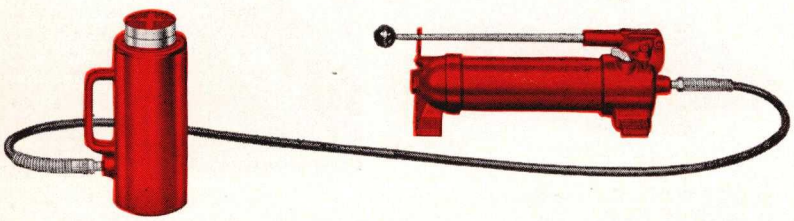
All-purpose ram that can be used with 20-ton attachments for work on heavy trucks and trailers. Ram collapsed height is 11-5/16" and has plunger travel of 5". Plunger retracts automatically. RC-251 Ram is equipped with ZR-400 female half of Spee-D-Coupler.

20-Ton Attachments



50-ton Porto-Power is super strong for super tough jobs

S-80 50-Ton Hydraulic Unit



ATTACHMENTS

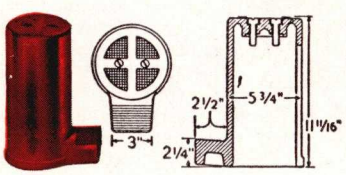
Z-302 Wedge and Z-303 "V" Saddles fasten to ram plunger and are included in S-82 Hydraulic Unit or may be purchased as individual attachments.

For general maintenance on heavy-duty trucks, graders and earth-moving equipment, heavy lifting and pushing, high-capacity 50-ton Porto-Power is super strong! Tops in heavy-duty hydraulic power—and *only* Blackhawk makes it. S-80 unit includes P-85 Pump, Z-913 Hose with Spee-D-Coupler and RC-210 Ram. 50 tons of hydraulic power yet entire unit is easily carried by one man. Pump has tonnage selector for 15, 25 or 50 tons. Set at 15 tons until plunger contacts load. Then reset to required tonnage—15, 25 or 50. Oil injector (not shown) for filling pump reservoir is included. Oil injector is also furnished with P-85 Pump only. S-82 Hydraulic Unit is same as S-80 but includes Z-302 and Z-303 Saddles.

RC-210 50-Ton Ram

All-purpose ram for heavy lifting and pushing in general repair and maintenance of heavy off-the-road trucks, graders, earth movers and other heavy-duty equipment. Ram collapsed height is 11"; plunger travel, 6". Plunger has serrated saddle; interchangeable with Z-302 Wedge and Z-303 "V" Saddles.

Z-319 Toe-Lift Attachment



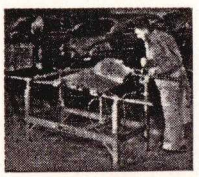
Z-319 slips over RC-210 to lift 25-ton load on toe. An integral, solid steel casting with screw holes for fastening to plunger. Side wall is slotted for ram handle. Not included in S-80 or S-82 units.

See Page 22 for further information on pump and rams.

Blackhawk offers time-saving equipment like the Reck-Rack, hydraulic presses and motor-driven hydraulic pumps for highly efficient, time-saving specialized operations with remotely-controlled Porto-Power.

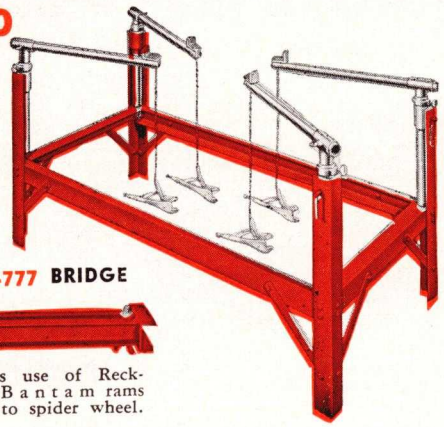
Versatile Reck-Rack handles modern bulky body sections

BULKY FENDERS



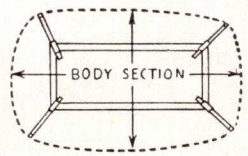
HEAVY DOORS

SA-20

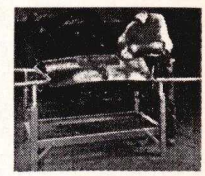


Z-777 BRIDGE

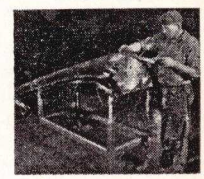
Expands use of Reck-Rack. Bantam rams couple to spider wheel.



ARMS SWING OUT to take sections as large as car roof. Holding range is over 102" long, 71" wide.



DECK LIDS



CLUMSY HOODS

Reck-Rack is a valuable addition to any body shop. Even in Bench-Rack equipped shops (see pp. 4 & 5) an extra SA-20 is a handy holder for sanding and finishing operations on all body sections including quarter panels and roofs. Panels can be set-up in Reck-Rack—*fast!* Pictures show how conveniently SA-20 holds various sections. Reck-Rack holds panels firmly and rigidly. Length is 59½"; width, 28¼"; minimum height 30¾"; vertical arms raise to 41¾".

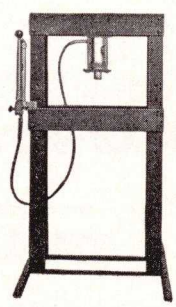
10-Ton Hydraulic Presses

Z-258

Z-258 10-ton Press (for use with RC-159 Ram only) speeds gear removal, inserting valve guides, plus hundreds of other pressing jobs. Mounts on work bench. Solid steel bars and extra-heavy rods make press sturdy and rigid. Sliding lock holder for ram. Width across press bed is 15"; clearance between ram and bed, 14½".

Z-339 Press mounted on Z-333 Pylon Stand (see pg. 18), is similar to Z-258, has same dimensions.

20 & 50-Ton Hydraulic Press



Here's how you can have a low-cost, portable press for your 20 or 50-ton Porto-Power. Free blueprints for either a 20 or 50-ton press with complete assembling instructions are available from Blackhawk or your Blackhawk Distributor. Many shops have already made their own pressing units from these instructions. They find them equal to many of today's high priced presses. Materials for these presses can be bought from any convenient steel warehouse.

Powerful, fast, electrically-driven Porto-Power Pumps

Do body repair faster with electric pump (arrow points to V-38 Valve.)

User operates 20-ton Ram with P-182 Pump to swiftly straighten heavy frame.

Complete, compact units replace hand operated pumps — available AC or DC

With motor, pump, control valve and oil reservoir all under *one* hood, these electrically-powered hydraulic pumps may be used to replace hand-operated Porto-Power pumps. Just connect the hose (it's Spee-D-Coupler equipped), plug in the cord and these pumps are ready to work anywhere.

P-182 is wired for 110/220-volt A.C., 60-cycle current.

P-254 is wired for 110/220-volt D.C. current.

P-255 is wired for 230-volt D.C. current.

Above pumps deliver 26.8 cu. in. per minute at 10,000 p.s.i. (pounds per square inch).

P-285 double-displacement pump is wired for 110/220-volt A.C., 60 cycle current. Delivers 53.6 cu. in. per minute at 5,000 p.s.i.

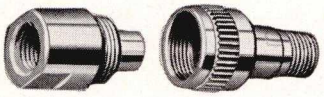
All pumps are 16" high; base diameter, 12¾"; oil capacity, 1 gal., using Blackhawk LX-22 (see page 23).

Blackhawk originated Spee-D-Coupler—and all Porto-Power rams and spreaders are Spee-D-Coupler-equipped for quick 5-second switch! Eliminates costly duplication of pumps.

Famous SPEE-D-COUPLERS provide *5-second* ram interchangeability

Z-630 BANTAM SPEE-D-COUPLER

for 4-ton Bantam only

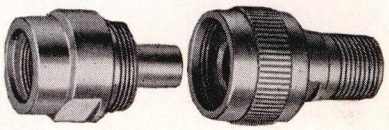


ZH-630 ZR-630

Z-630 (complete) includes ZH-630 and ZR-630 Half Couplers and Z-640 Cap. ZH-630 is male (hose) half of coupler; has ¼" female pipe thread. ZR-630 is female (ram) half; has ¼" male pipe thread, includes Z-640 Cap that seals when disengaged. Z-641 Cap seals ZH-630 (male) half when disengaged. Small size does not permit use with larger capacity Porto-Power hose and rams.

Z-604 REGULAR SPEE-D-COUPLER

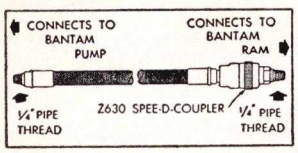
for all Porto-Power except Bantam



ZH-604 ZR-400

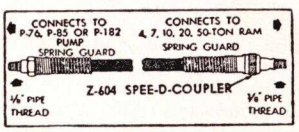
Z-604 (complete) includes ZH-604 and ZR-400 Half Couplers and Z-410 Cap. ZH-604 is male (hose) half of Spee-D-Coupler and has ⅜" female pipe thread. ZR-400 is female (ram) half of Spee-D-Coupler and has ⅜" male pipe thread, includes Z-410 Cap. Z-410 Cap seals ZR-400 half of coupler when disengaged. Z-603 Cap seals ZH-604 half of coupler when disengaged.

Z-887 BANTAM HOSE Z-864



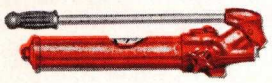
Specially designed, durable hydraulic hose to meet the requirements of 4-ton Porto-Power. Available only in 6-ft. length, Z-887 Hose has complete Bantam Z-630 Spee-D-Coupler. Has ½" O.D. and is for use with Bantam only—not interchangeable with regular Porto-Power hose. For replacement purposes and auxiliary use, Z-864 Bantam Hose has ZH-630 male half of Spee-D-Coupler (connects to ZR-630 half coupler on Porto-Power rams).

Z-914 REGULAR HOSE Z-913



Long-lived, specially designed hydraulic hose for 10, 20 and 50 ton Porto-Power. Available in 6 and 2 ft. lengths (see 2-ft. Z-916 Hose below). Z-914 Regular Hose is 6 ft. long, complete with Z-604 Spee-D-Coupler. Z-913 Hose is 6-ft. length with ZH-604 male half of coupler (connects to ZR-400 female half in ram) for replacement and auxiliary use. Z-916 Regular Hose, 2-ft. in length, for replacement use has ⅜" male pipe thread for connecting to R-242 Ram (see R-263 ram, page 12 and below); other end has ZR-400 half coupler to connect to hose on pump.

INDIVIDUAL Porto-Power PUMPS AND RAMS

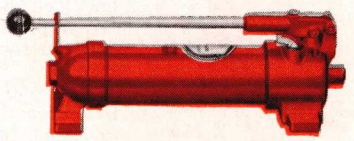


P-400 BANTAM PUMP

Serves Bantam rams and spreaders (pg. 6); has ¼" female pipe thread hose outlet. 12" handle screws to pump beam. Single speed. Release valve on right side. Oil capacity, 13½ cu. in. P-400 develops 8,650 p.s.i.; displaces .0621 cu. in. per stroke. Net wt., 7 lbs. Overall length, 14-5/16".

P-76 REGULAR PUMP

Serves Midget (4-ton), 7, 10 & 20-ton rams (pg. 12); has ⅜" female pipe thread hose outlet. 18¾" handle screws to pump beam for vertical or horizontal operating position. Single speed. Oil capacity, 43 cu. in. P-76 develops 10,000 p.s.i, displaces .16 cu. in. per stroke. Length, 20⅛"; net wt., 13 lbs.



P-85 3-SPEED PUMP

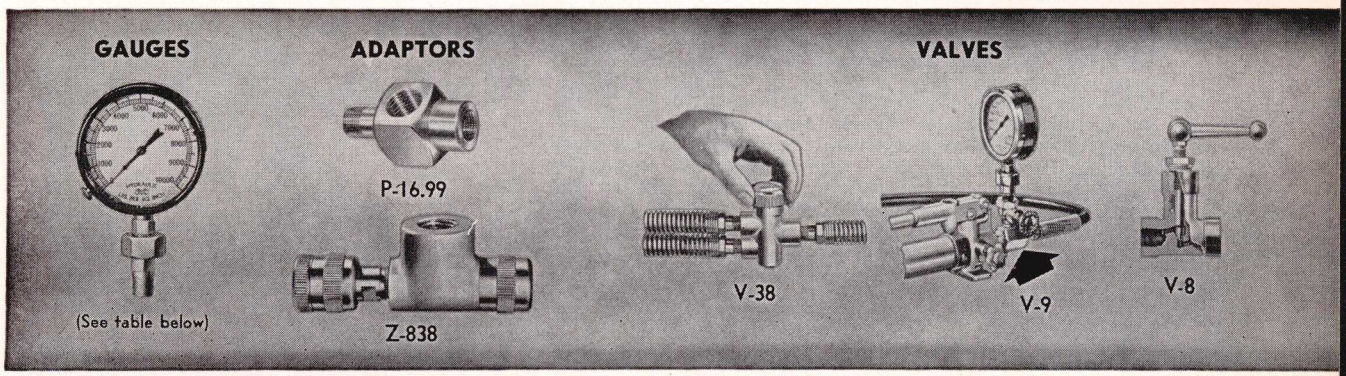
Serves 50-ton RC-210 ram. Special internal design permits operation in any position. Triple selector regulates pumping speed for 15, 25 or 50-ton loads. Displ. per stroke: 15-ton, .442 cu. in.; 25-ton, .29 cu. in.; 50-ton, .15 cu. in. Oil capacity, 145 cu. in. Develops 10,000 p.s.i. Has ⅜" female pipe thread hose outlet. Locking device converts handle for carrying. Net wt., 32 lbs.

P-228 HAND PUMP develops 40,000 p.s.i. for special hydraulic operations—Write Blackhawk for information.

RAM MODEL	RC-640	RC-618	RC-540	R-263	RC-75	RC-426	RC-159	RC-251	RC-210
RAM ILLUSTRATED									
TYPE OF RAM	PULL	PUSH	PUSH	PUSH	PUSH#	HOLLOW† PUSH-PULL	PUSH	PUSH	PUSH
Capacity, tons	2	2	4	4	7	10	10	20	50
Collapsed hgt.	9 3/16"	4 7/8"	9 3/4"	1 1/16"	4 1/2"	6 1/2"	11 3/4"	11 5/16"	11"
Plunger travel	5"	3"	5"	5/8"	2 1/2"	2"	6"	5"	6"
Total hgt.	14 3/16"*	9 1/2"*	14 3/4"	2 5/16"	7"	8 1/2"	17 3/4"	16 5/16"	17"
Weight, lbs.	4"	1 3/4	3 1/4"	1	4 1/2	7	10	22 3/4	60
Operated by pump	P-400	P-400	P-400	P-76	P-76	P-76	P-76	P-76	P-85

*RC-618 has 1 5/8" screw extension. #Special male adaptor R-75.38A included with RC-75. †Dia. of hole thru RC-426 is .635".

Here is high-quality, completely reliable gauge and valve equipment to adapt Porto-Power to testing or for various procedures where gauge equipment is needed.



LBS. TOTAL LOAD GAUGES

The Lbs. Total Load Gauges measure external pressure exerted by ram. They have capacities as listed in table below. The P-16.99 Gauge Adaptor is needed to attach gauge between pump and hose—be sure to order with gauge. Add other equipment (listed on this page) as required. Specify "ASSEMBLED" if gauge and fittings are to be mounted on hydraulic unit at the factory. All gauges have straight ½" male fitting. Only 4½" dia. gauges are available from Blackhawk. If special gauges are required, order direct from Blackhawk Mfg. Co. and specify "Effective Ram Area" of ram. Blackhawk gauges conform to requirements of U.S. Bureau of Standards which permit variations of plus-or-minus 2%. Ram plunger friction, caused by off-center load, will run up to plus-or-minus 5% of reading.

Gauge No	For Rams	Gauge Reading Lbs.	Lbs. Per Div.	No. of Divisions
C-100-S	7-TON RC-75	20,000	200	100
Z-293	10-TON RC-159	24,000	250	100
Z-494	20-TON RC-251	50,000	500	100
GA-100-S	50-TON RC-210	120,000	2000	60

Z-721 LBS. PER SQ. IN. GAUGE

This gauge is generally used with Porto-Power Pumps when fluid, under pressure, is injected directly into tubular materials, tanks, valves, etc., for testing. Z-721 has 100 divisions with 0 to 10,000 "lbs. per sq. in." readings. Straight ½" male fitting threads into P-16.99 adaptor. Z-722 (same as Z-721) but has "ell" fitting.

Z-881 MAXIMUM INDICATING POINTER

(Red metal pointer mounted on plastic cover.) Z-881 replaces glass face on gauge. Red pointer follows regular pointer as pressure increases—then stays at max. reading when regular pointer drops back after release of pressure.

GAUGE ADAPTORS

Z-838 (see illustration above) provides quick installation of gauge into Spee-D-Coupler equipped hose lines. Adaptor thumb screws to couplers on hose. Top outlet is primarily for gauge, but is easily converted with reducer bushing to take auxiliary Porto-Power hose. (Has ZR-400 Half Coupler and Z-410 and Z-603 Caps.)

P-16.99 Gauge Adaptor is necessary whenever attaching gauge between pump and hose. It has ⅜" female standard pipe thread for hose connection and ⅜" male for pump connection.

VALVES

V-38 Remote Control Valve (10,000 p.s.i.) controls P-182 Pump (pg. 21) remotely. Installed in hose line near ram. It employs double hose from pump to valve and single hose from valve to ram. Knob controls releasing and holding load (see illustration above). V-38 saves steps, cuts work time. Complete assembly of valve and hoses available as model SC-4 (includes two Z-914 and one Z-913 hose plus V-38 valve) as shown in illustration.

V-9 Choker is manually adjusted needle valve for throttling oil out of gauge to prevent snapping of pointer when suddenly releasing load. For testing materials to destruction. Has ½" male and female pipe threads.

V-8 Shut-off provides positive shut-off. 10,000 p.s.i. capacity. V-8 has ⅜" female pipe thread taps.

FZ-1601 to FZ-1630 HYDRAULIC FITTINGS

Fittings for special Porto-Power applications. Write Blackhawk for complete information. (Price List gives entire listing and size specifications).

Blackhawk Hydraulic Oil assures efficient operation!

LX-21 NEW RLS JACK OIL FOR HAND-OPERATED PORTO-POWER

First with these important additives: RUST PREVENTERS eliminate rust hazard due to moisture; LUBRICITY IMPROVERS give smooth operation, less parts wear! SLUDGE STOPPERS prolong oil life. A lower pour point (—65°) and anti-foam action protect your valuable Porto-Power.

LX-22 OIL FOR ELECTRICALLY-DRIVEN PORTO-POWER PUMPS

A special foam-resistant oil with high lubricating qualities which is necessary for the high speeds and pressures generated by these pumps. Keeps them running smoothly, efficiently and cooly. Available in metal containers—see Porto-Power price list.

MAINTENANCE & ELECTRICAL SETS

These Porto-Power assortments are specifically designed for industrial maintenance and production, construction and electrical work. For detailed information concerning these industrial applications, write directly to Blackhawk Mfg. Co.

FZ-15 SUPER MAINTENANCE ASSORTMENT

All the Porto-Power equipment a maintenance man needs to lick tough repair problems. Includes four rams—Midget (4-ton) ram, handy (7-ton) Short ram, general-purpose (10-ton) ram and heavy-duty (20-ton) ram. Forty-one attachments harness this wide range of hydraulic power for 1,001 ways of pulling, pushing, lifting, pressing, spreading, bending and clamping. And all the safe, easy, quick hydraulic way! New Lock-On Tubing provided in this multi-purpose ass't. cuts assembly time of set-ups up to 50%. Set comes complete in 19523 reinforced wood case.

FZ-15

S-79 HEAVY-DUTY ASSORTMENT

With 20 tons of smooth, efficient hydraulic power, this ass't. is equipped to lick brute jobs like moving, setting-up and leveling heavy machinery; repairing cranes, shovels and bridges. Set includes dependable S-78 20-ton Hydraulic Unit, chains, Chain Pull Plate, Extensions, Couplings, Pusher Heads and Base Plates—a total of 12 rugged attachments to pull, push, press, spread or lift over any span at any angle. Toe-lift attachment provides low-level lifting. Ass't. comes packed in 19563 case.

ELECTRICIANS' PIPE & CONDUIT BENDERS

Popular Blackhawk Benders work in any position—on their sides, upright, overhead—and they're completely portable. These practical benders make neat, uniform, kinkless bends—and they do it faster!

S-130 New featherweight aluminum hydraulic Pipe and Rigid Conduit Bender makes 90° bends in one set-up! New Optik-Angle Gauge indicates degree of bend. Set contains S-72 hydraulic unit plus all bending attachments for bending ½", ¾", 1", 1¼", 1½" and 2" pipe.

S-34 Thin-Wall Conduit Set bends 1¼", 1½" and 2" diameters. Includes S-35 Ass't. of attachments, S-71 Hydraulic Unit.

S-35 Assortment of Attachments includes 12 bending attachments only (for thin-wall conduit) as included in S-34 Set.

S-36 Pipe and Rigid Conduit Bender Ass't. for 1¼", 1½", 2", 2½", 3", 3½" and 4" dia. pipe and rigid conduit. Entire ass't. of heavy steel attachments plus S-78 20-Ton Hydraulic Unit pack into handy case.

NEW!

S-130

ELECTRICIANS' KNOCK-OUT PUNCHES

New hydraulic knock-out unit is 9 lbs. lighter and lower in cost. It operates wherever holes have to be cut. It's the speediest method for punching holes into electrical distribution boxes, metal panels and troughs. All holes turn out clean, true, perfectly centered and free from burrs.

SB-62 New Master Assortment includes everything for punching holes for 10 conduit sizes: ½", ¾", 1", 1¼", 1½", 2", 2½", 3", 3½" and 4". Packed in sturdy metal carrying case with instructions imprinted.

SB-61 features six precision-machined knock-outs plus pump, ram, hose and all pulling attachments to punch holes for ½", ¾", 1", 1¼", 1½" and 2" diameter pipe.

SB-60 New Converter Kit serves any leading brand of knock-out punch in the field whether hand or hydraulically operated.

SB-70 New hydraulic Knock-Out Unit develops 12 tons of power! Consists of P-400 pump, RC-112 ram, Z-864 flexible hose with swiveling Spee-D-Coupler.

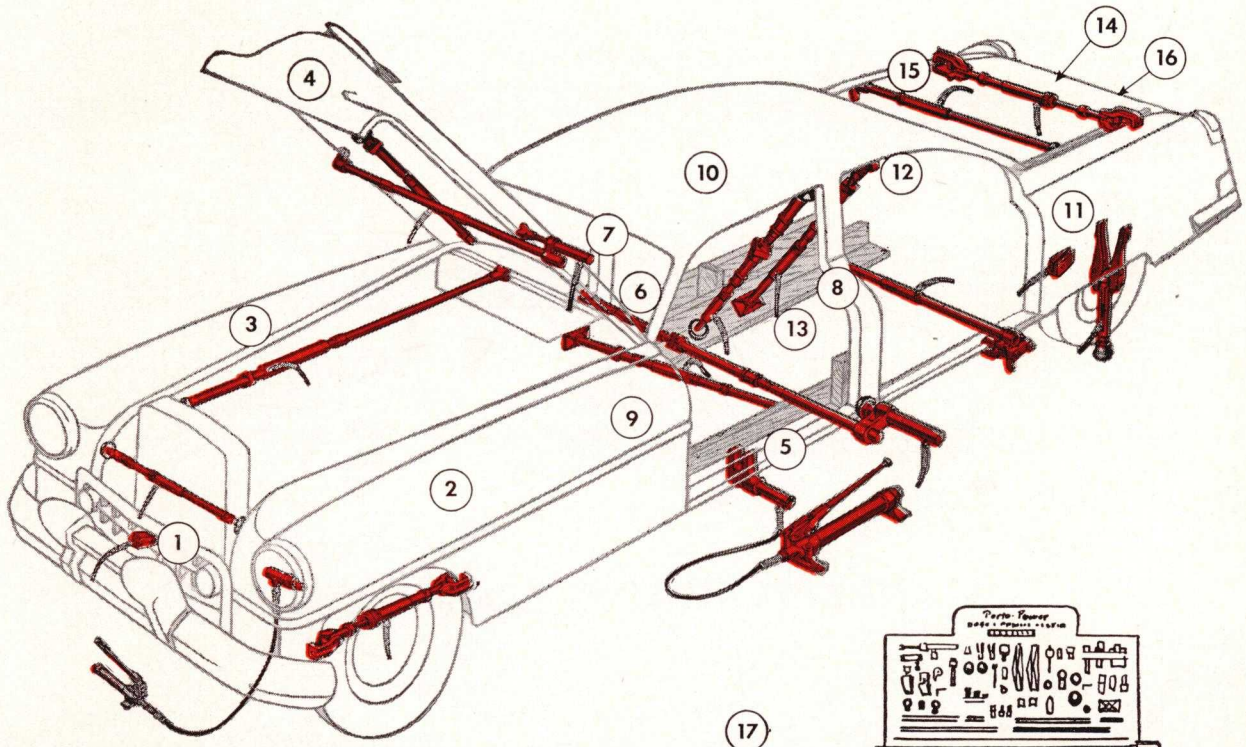
NEW!

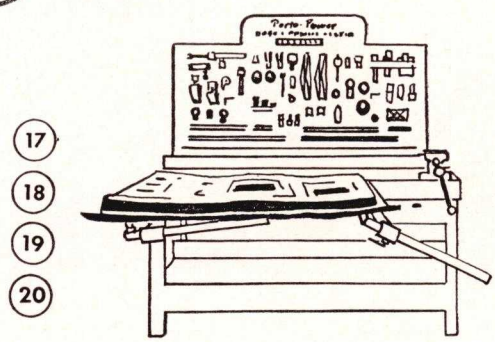
SB-62

More true today than ever—there's no substitute for Porto-Power

HOW TO APPLY Porto-Power

Only Porto-Power gives you all the necessary rams and attachments to efficiently repair the 20 major body sections on modern cars





No. 1 Grille	No. 7 Right Pillar	No. 13 Metal Floor
No. 2 Left Fender	No. 8 Left Pillar	No. 14 Rear Back Panel
No. 3 Right Fender	No. 9 Cowl	No. 15 Rear Metal Floor
No. 4 Hood	No. 10 Top	No. 16 Deck Lid
No. 5 Left Rocker Panel	No. 11 Left Rear Quarter Panel	No. 17, 18, 19, 20 Doors
No. 6 Right Rocker Panel	No. 12 Right Rear Quarter Panel	

Each year the problem of body rebuilding becomes more complicated, as modern car bodies become more complicated. At the same time, the market has grown, until today, collision damage accounts for almost 30% of all major automotive service work. To take full advantage of these tremendous profit opportunities, body departments now, as never before, require properly engineered products to lick tough job problems. Since 1935, Blackhawk, and only Blackhawk, has demonstrated a policy of constantly creating new hydraulic body jack equipment to handle new body repair problems.

This illustration, showing Porto-Power used on all 20 major body sections of the modern car, is visual proof of why the professional body man needs a whole family of hydraulic tools—compact, lightweight Bantam Porto-Power for fast work on sheet metal repair—10-ton Porto-Power for reinforced sections—the right size and style hydraulic ram for each type of body damage, body style and range of work—all attachments that are necessary to push, pull, clamp and spread. Blackhawk, with its engineering research staff and its own experimental body shop, keeps you up-to-date with equipment that you need. Porto-Power is years ahead of all other body jack lines to help you earn more dollars from damage.

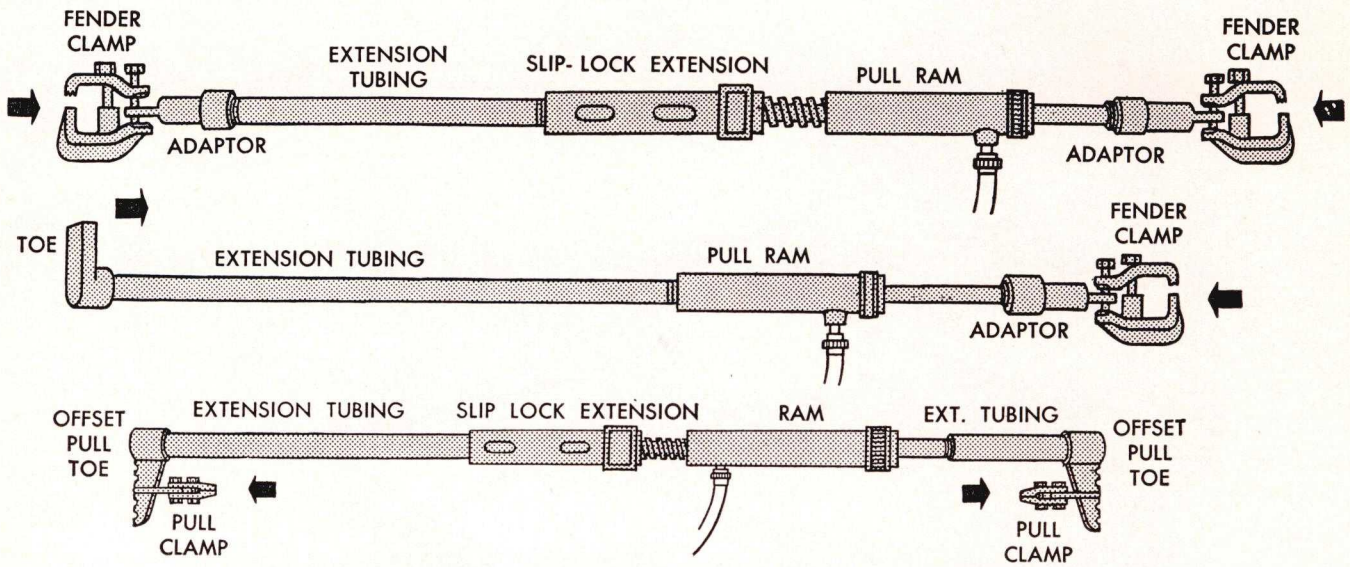
The first 24 pages of this catalog show you the complete range of hydraulic tools in the Porto-Power family. The following 22 pages are actual on-the-job pictures, taken in dealer body departments and independent body shops throughout the country. Newest techniques, for faster, more efficient, more profitable body rebuilding are illustrated. Here is an opportunity for you to see how tough repair problems are solved by other professional body men, using Blackhawk Porto-Power equipment.

Porto-Power COMBINATIONS

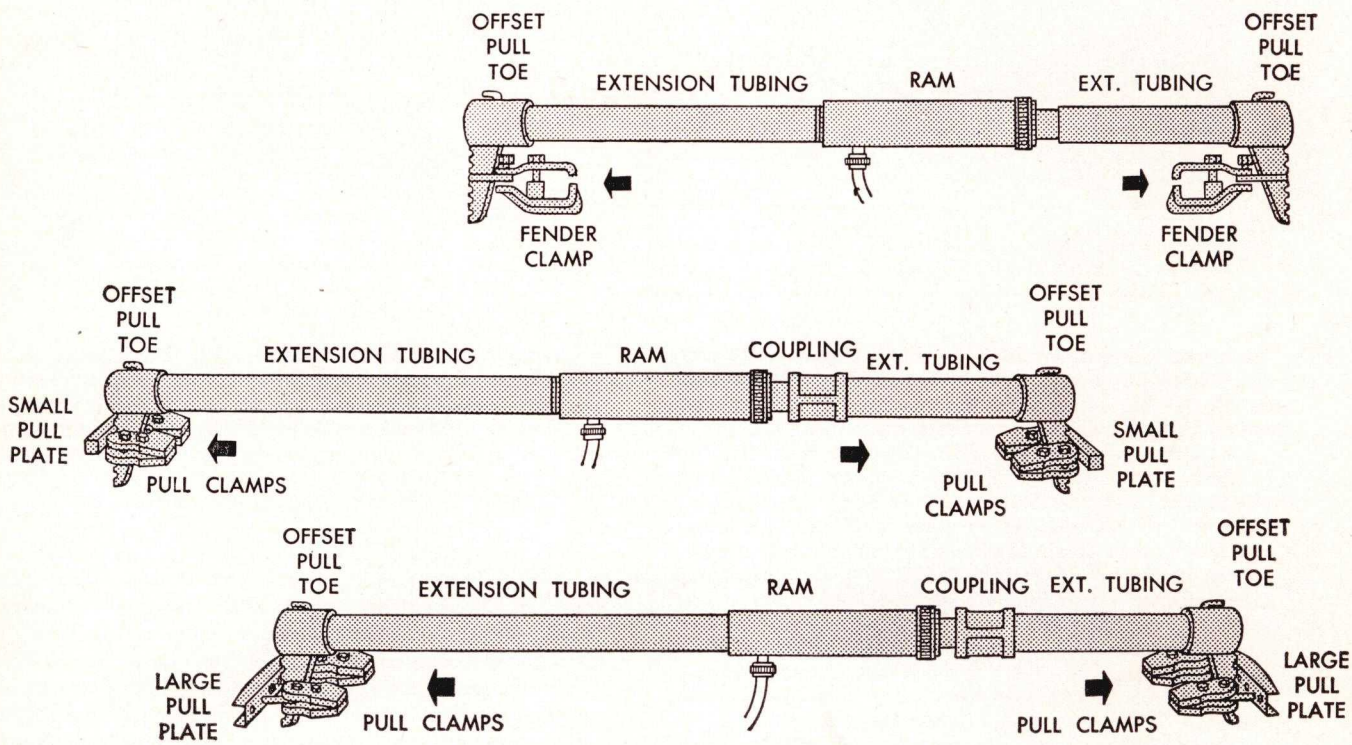
Pull more ways, faster with Porto-Power to lick tough repair problems

PULLING

BANTAM PULLING COMBINATIONS



STANDARD PULLING COMBINATIONS



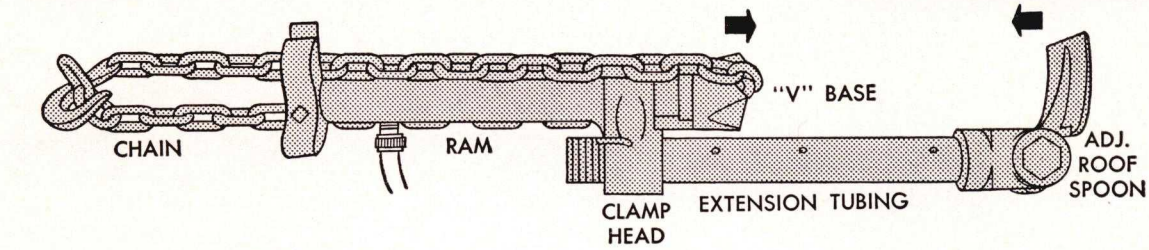
BLACKHAWK OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

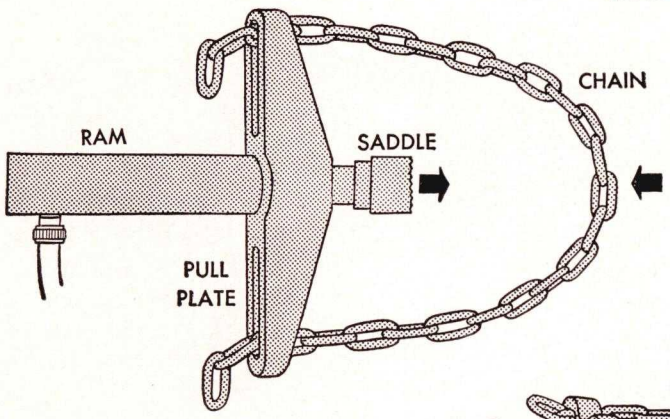
A full range of pulling for a full range of work—possible only with Porto-Power

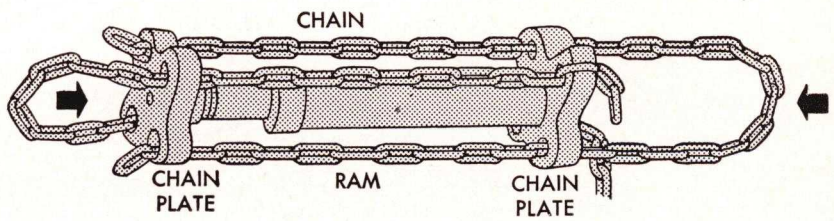
Porto-Power COMBINATIONS

PULLING

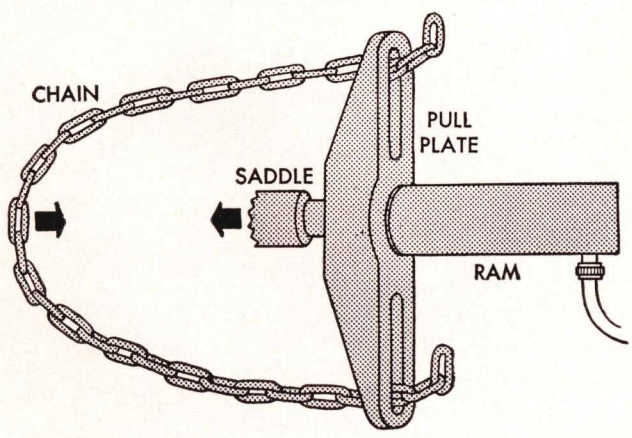
STANDARD PULLING COMBINATIONS

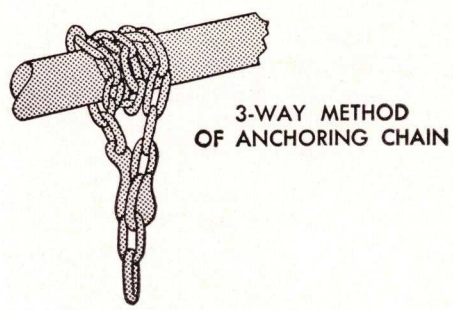






20-TON PULLING COMBINATION





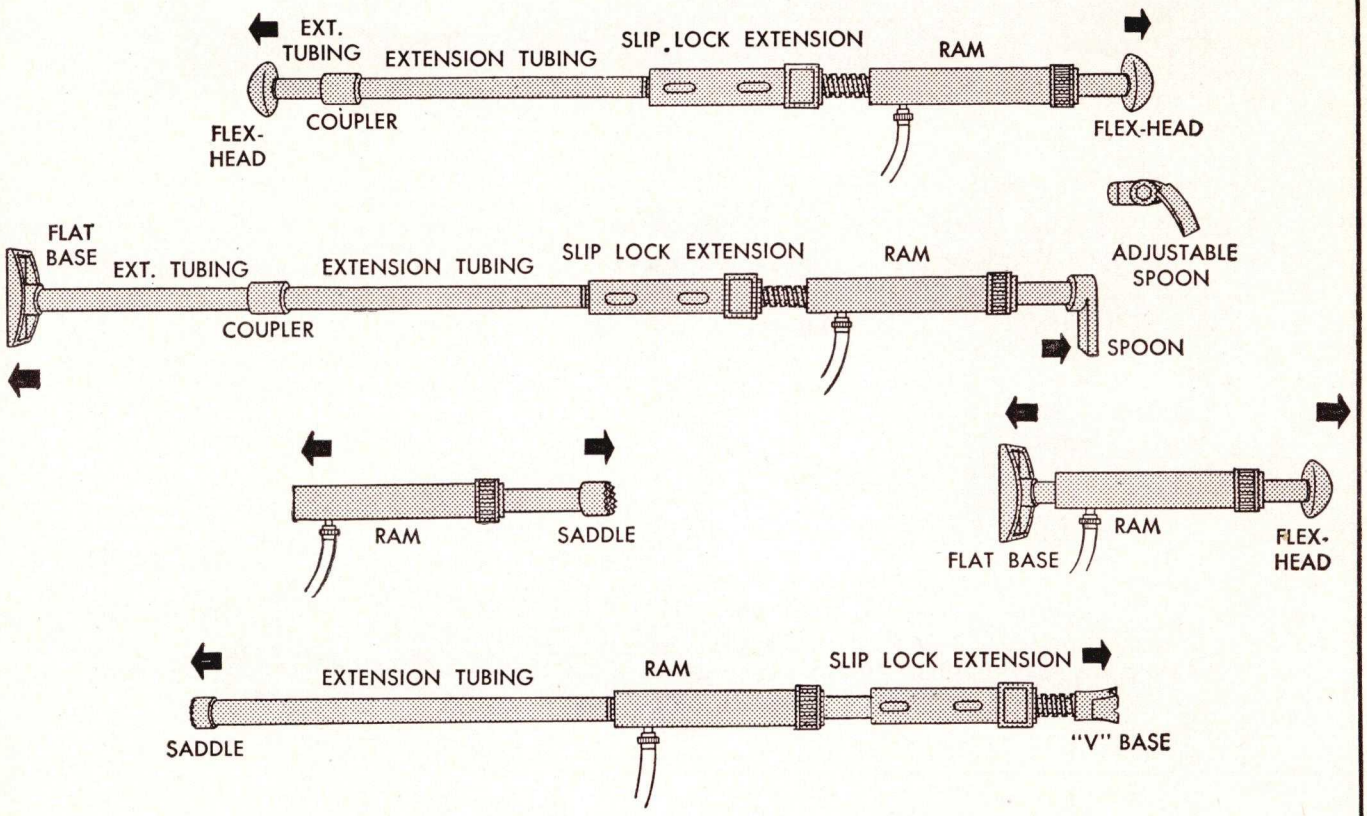
3-WAY METHOD OF ANCHORING CHAIN

Porto-Power COMBINATIONS

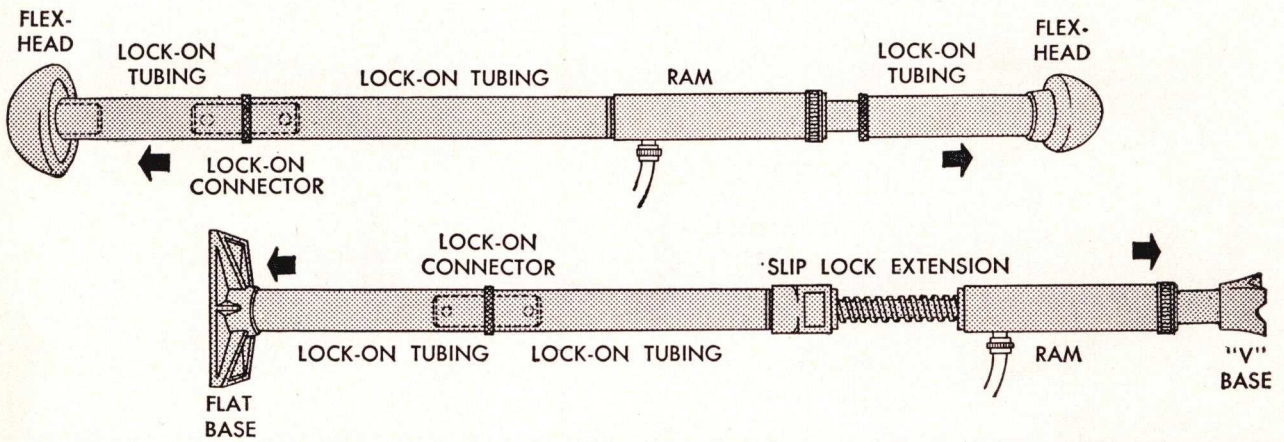
Look at all these practical pushing combinations you can make with Porto-Power

PUSHING

BANTAM PUSHING COMBINATIONS



STANDARD PUSHING COMBINATIONS

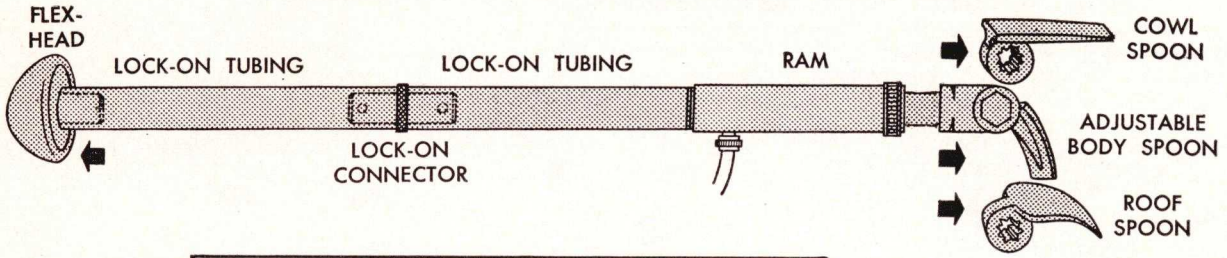


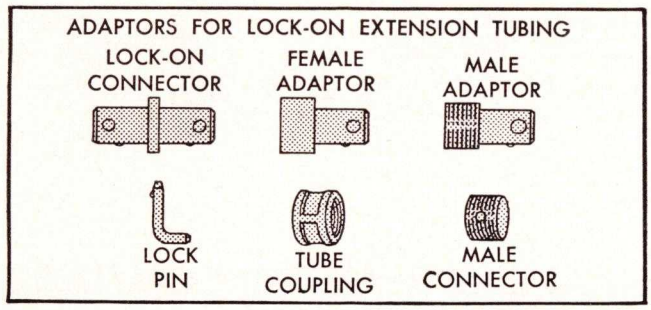
BLACKHAWK® OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

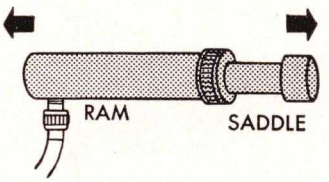
Porto-Power has ALL the attachments necessary to handle ALL kinds of jobs—light or heavy

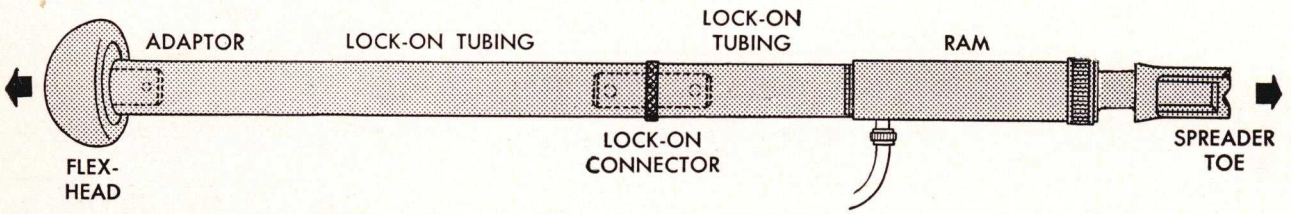
PUSHING

STANDARD PUSHING COMBINATIONS

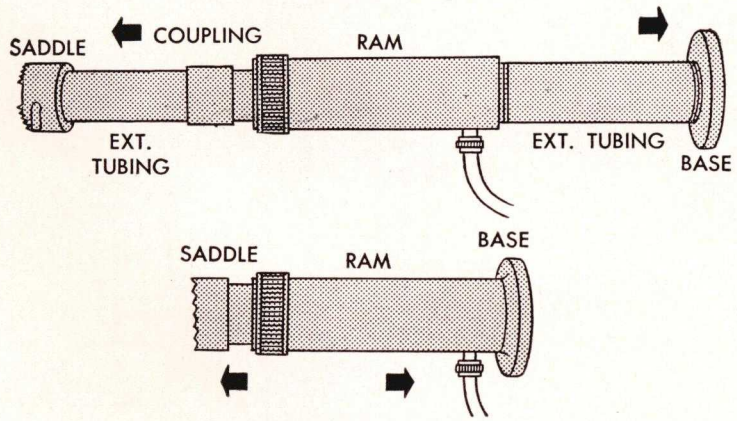


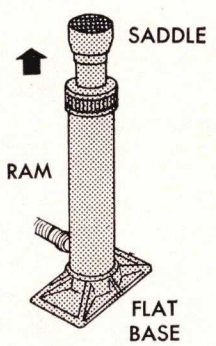






20-TON PUSHING COMBINATIONS



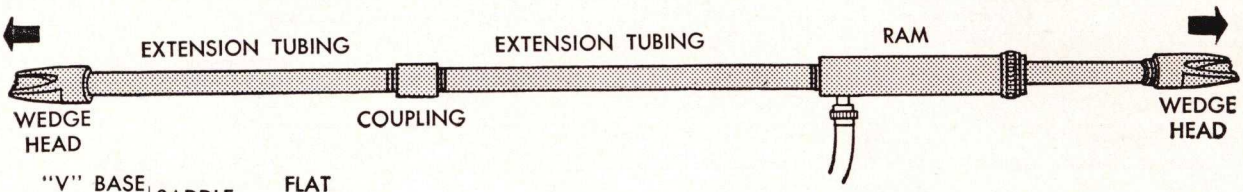


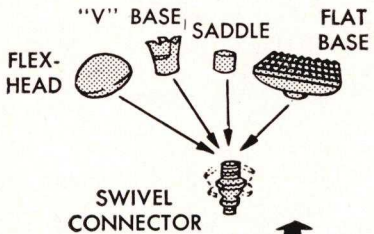
Porto-Power COMBINATIONS

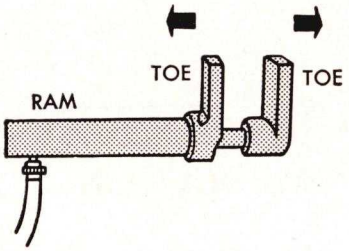
No other body jack line offers you all these ways to spread

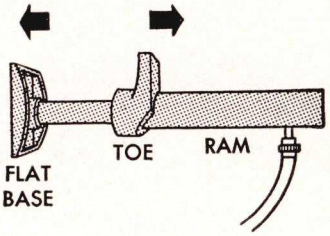
SPREADING

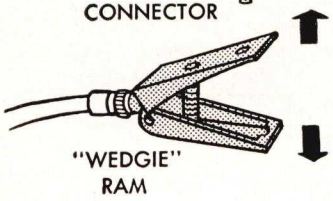
BANTAM SPREADING COMBINATIONS



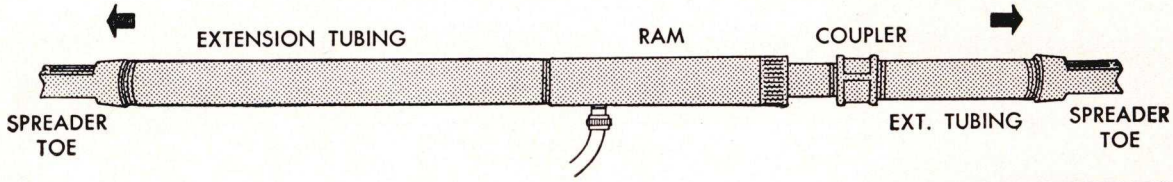


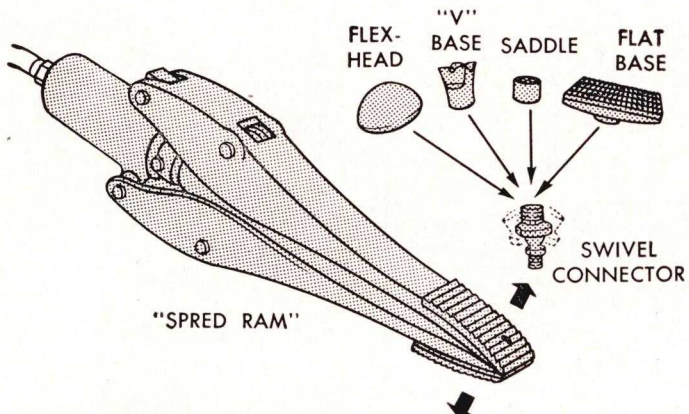


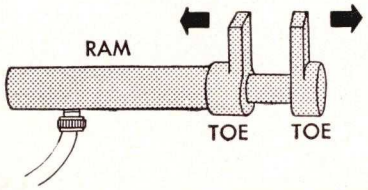


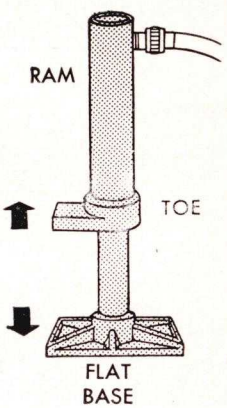


STANDARD SPREADING COMBINATIONS

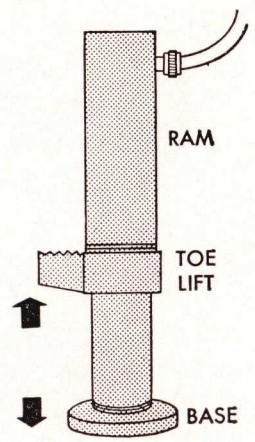








20-TON SPREADING COMBINATION



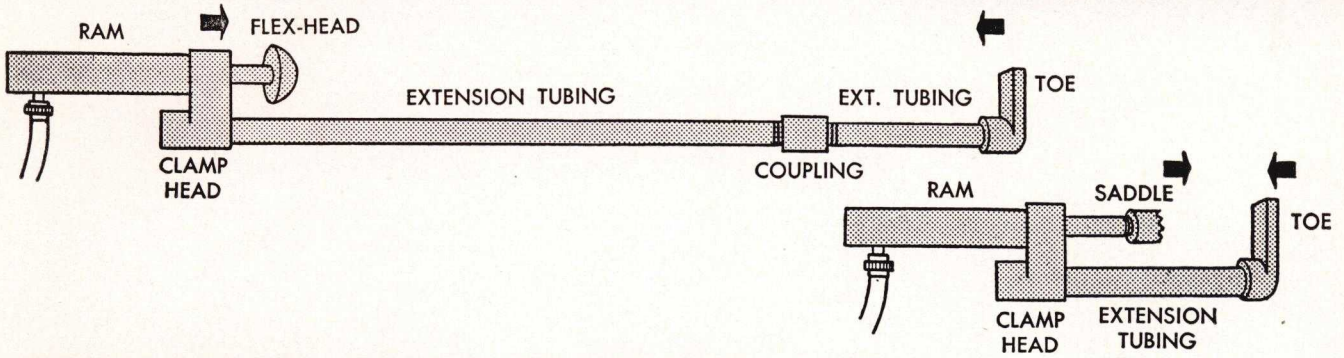
BLACKHAWK OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

With a single hose and revolving Spee-D-Coupler these set-ups are a snap to assemble

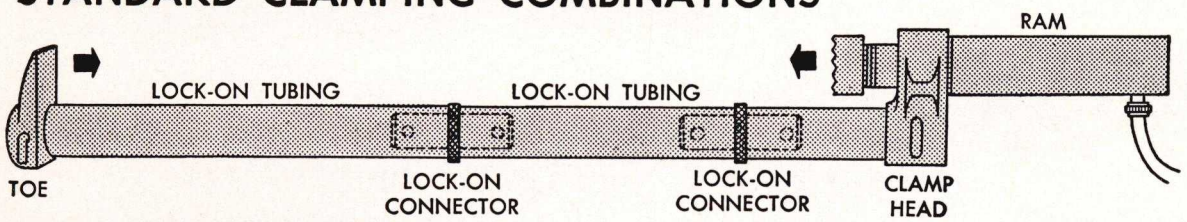
Porto-Power COMBINATIONS

CLAMPING

BANTAM CLAMPING COMBINATIONS

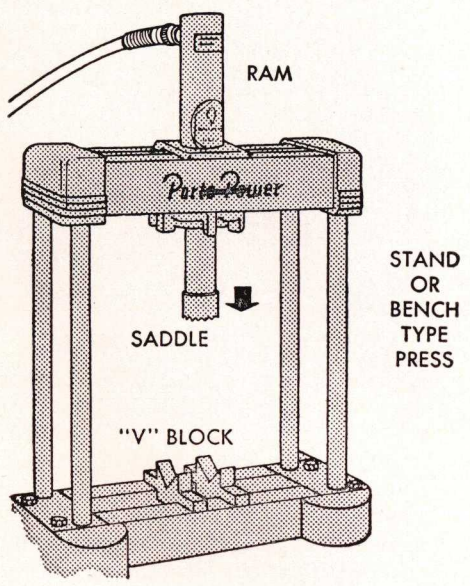


STANDARD CLAMPING COMBINATIONS

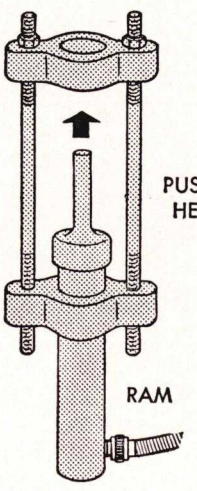


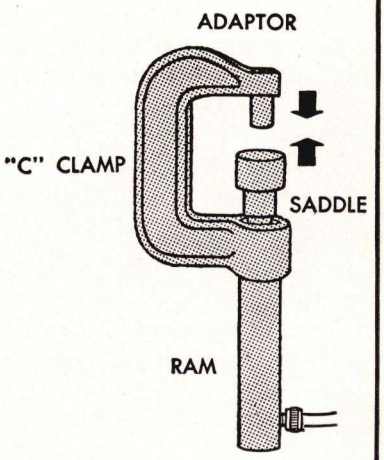
PRESSING

STANDARD PRESSING COMBINATIONS



STAND OR BENCH TYPE PRESS

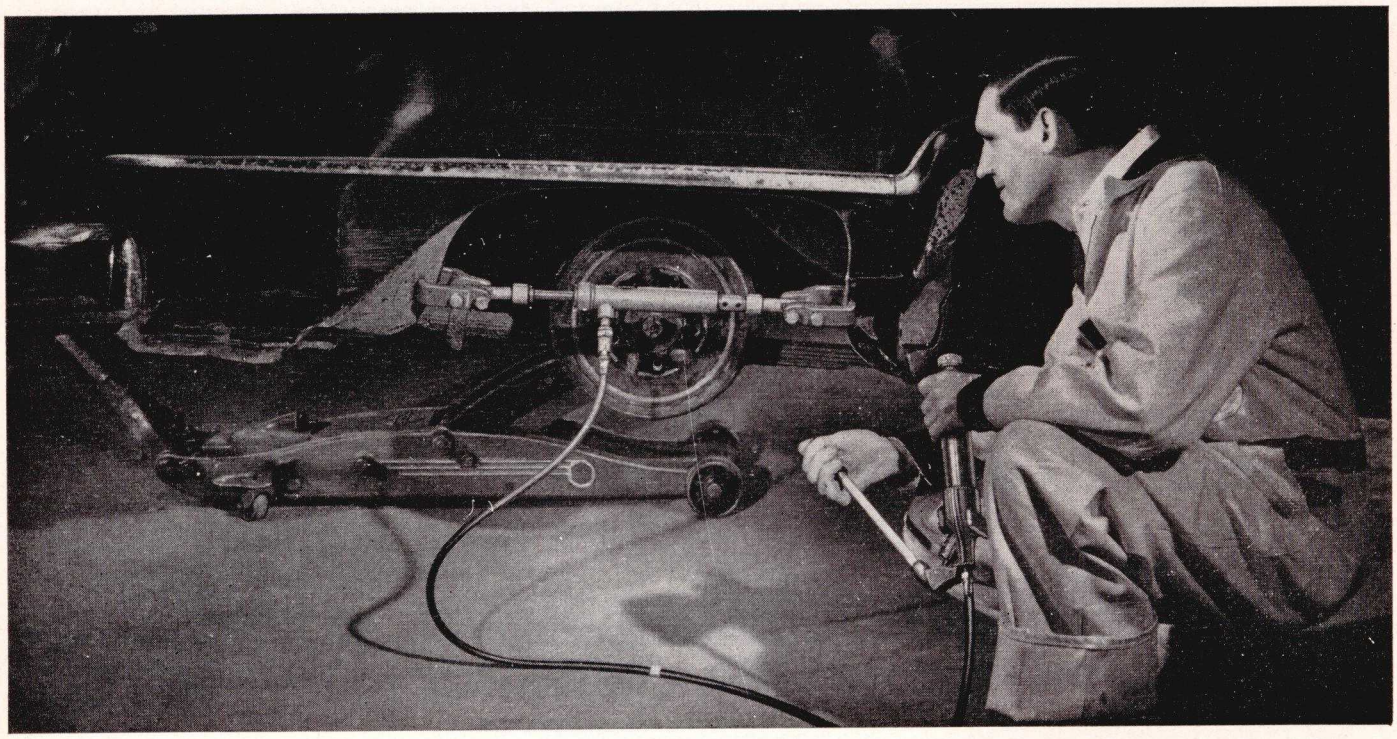




Practical on-the-job applications of pulling, pushing, spreading, clamping, and pressing combinations are shown on pages 32-47, inclusive.

PULLING with Porto-Power

More ways to pull, more speed, lighter more compact set-ups



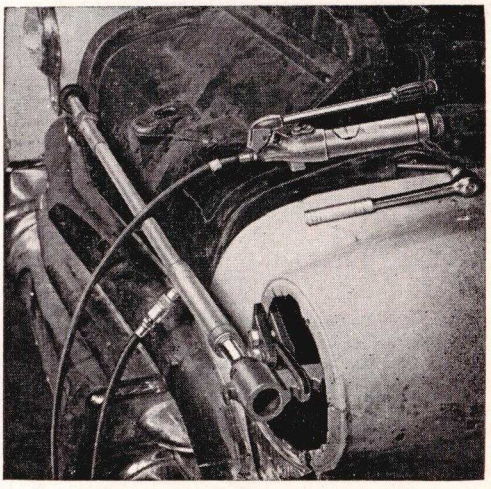
BANTAM PULL OPERATION STRAIGHTENS REAR FENDER

A Bantam Porto-Power pull set-up is used to pull fender skirt into position. Even though the fender had been bent and curled under, the broad Fender Clamp is able to get a secure grip. This type Fender Clamp is designed to readily grip over the bead on any type fender on modern cars. The RC-612 Pull Ram is light and compact making it useful where there's little room to work.

For complete information on all Bantam hook-ups for pulling, see Page 26.

ALIGNING REAR PANEL

Left rear panel is pulled into position with Bantam pull set-up and Fender Clamps. Using Slip Lock Extension, body mechanic has flexible set-up that adjusts to varying lengths. It takes less time to make this set-up with Lock-On Extension Tubing.



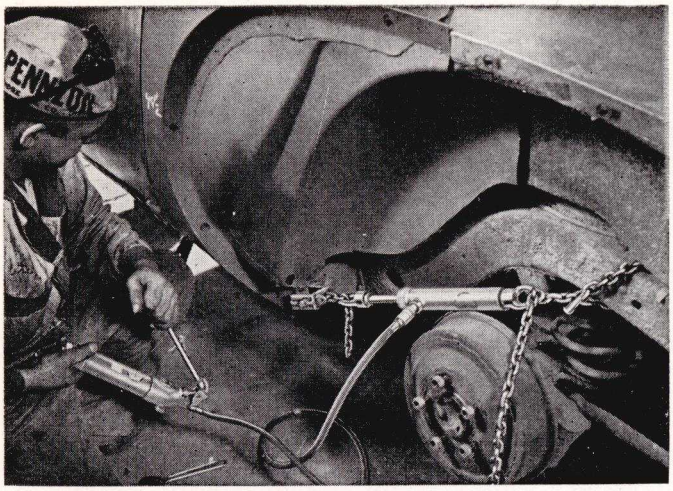
PULLING FRONT FENDER

Here efficient pulling is accomplished with Bantam RC-325 Ram plus AZ-1304 Pull Clamp, AZ-1250 Offset Pull Toe and AZ-1307 Clamp Link. Inside of front fender is pulled into alignment while set-up is anchored against opposite, undamaged fender with hard rubber Flex-Head.

BLACKHAWK OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

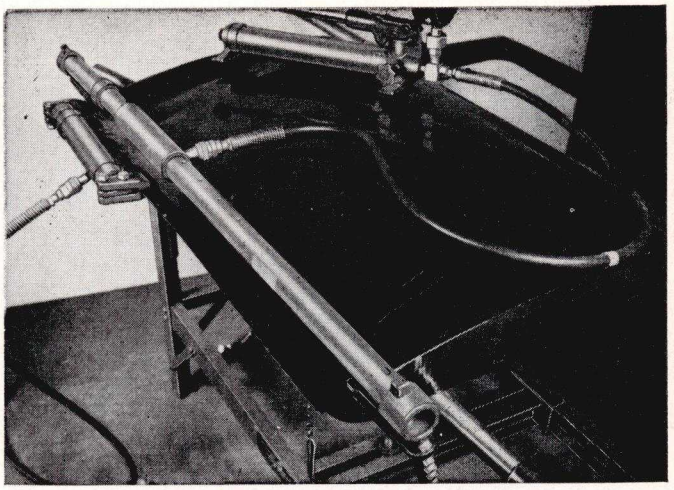
PULLING with Porto-Power

Single acting rams give you faster action and full power on every pull



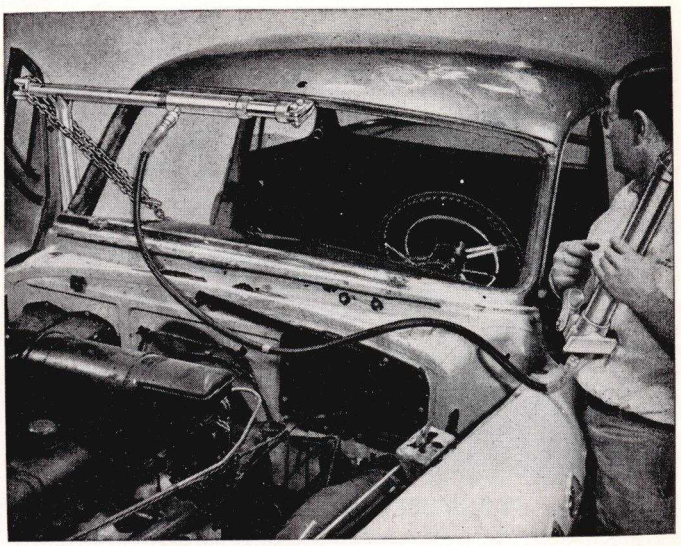
INSTALLING REAR PANEL

Body mechanic uses Bantam RC-612 Pull Ram with Fender Clamp to pull new rear quarter panel into position. The set-up is securely anchored on frame member (at right) by means of chain and Chain Pull Grip. Convenient six-foot hose allows mechanic to check alignment while pumping.



STRAIGHTENING DOOR PANEL

Two 10-ton units with AZ-1304 Pull Clamps straighten door frame and door edges. The long pull set-up relieves pressure caused by damage, enabling the short pull set-up to straighten door edges faster. Damage to door frame is also corrected by pressure from long set-up. Both pull set-ups utilize a Push Ram.

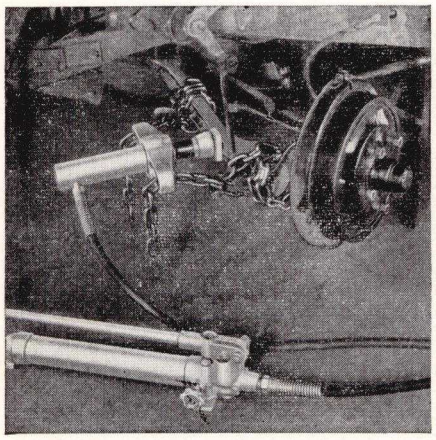


UNUSUAL PULLING COMBINATION RESTORES DAMAGED ROOF CONTOUR—These two pictures illustrate an unusual set-up where a 10-ton ram is pulling the outer edge of a damaged top back into position. Exact alignment is required for proper windshield fit. The Edge Clamp Pusher Head secures Pull Clamp to ram plunger and enables clamp to grip at this angle. Entire set-up is securely anchored by chain to floor body bolt. Chain is hooked through body spoon yoke at end of set-up. Upright combination merely supports the pulling set-up.

. . . THE MOST COMPLETE LINE OF BODY JACKS—Porto-Power

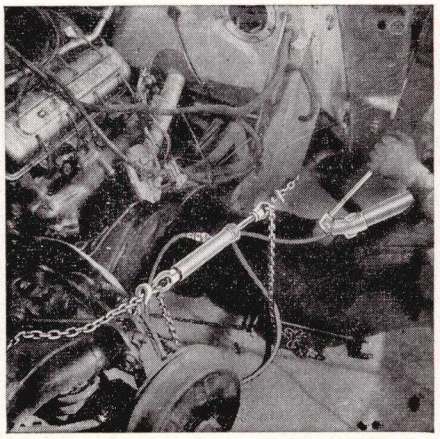
PULLING with Porto-Power

No other body jack line gives you all these ways to pull



STRAIGHTENING AXLE

A Standard Porto-Power unit is used to pull front axle into alignment. Equipment includes RC-159 Ram, Chain Pull Plate, and chains. Note the steel plate placed between the Ram's saddle and axle to bridge the flanges. This set-up is for trucks with conventional springing.

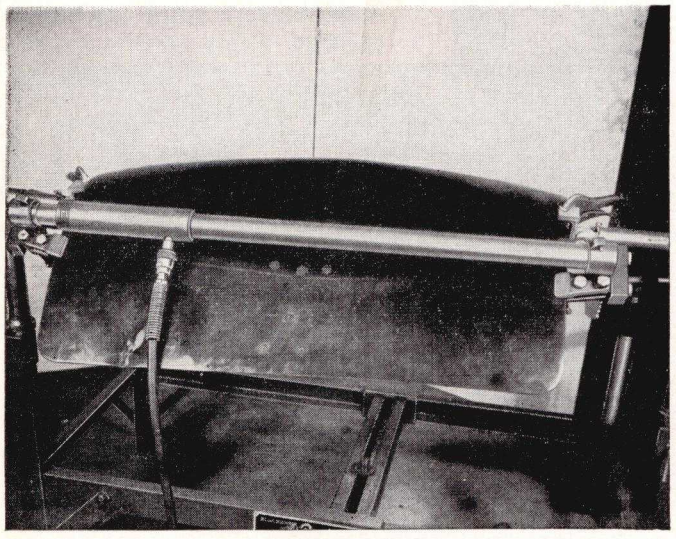


FITTING FLOOR BOARD DECK

A Bantam Pull Ram with chain attachments is used to pull left side of floor board deck into exact position to install body bolts. By using a chain arrangement, the body mechanic is able to adjust the Porto-Power combination to whatever length that he requires.

CORRECTING HOOD CONTOUR

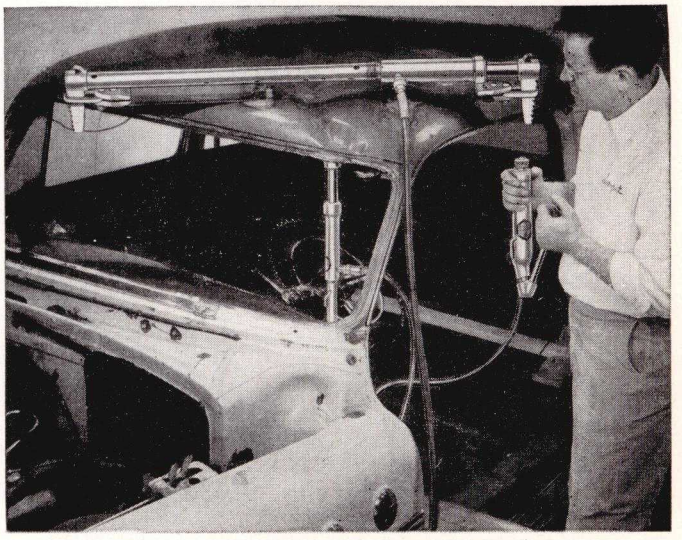
Badly sprung hood is pulled into line with Bantam Porto-Power. The pump used in this picture can be uncoupled from the Pull Ram and in 5 seconds switched to a general purpose Ram or to a Spreader for various other body straightening operations.



STRAIGHTENING DECK LID

Sets of dual Pull Clamps lock this set-up to a damaged trunk deck while pressure is applied. By pulling from both sides, the damaged metal is popped back into place reducing the amount of finishing work necessary. A Standard Ram is used in this efficient set-up.

See pages 26 and 27 for various types of pull combinations.



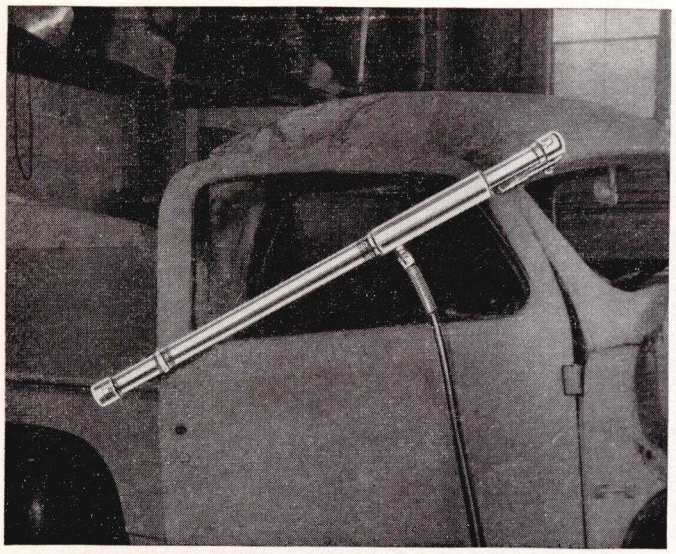
PULLING OUT DENTED TOP

To pull deep dents out of car top, bodyman solders metal strips on either side of damaged area. Pull Clamps are then fastened to metal strips and with Clamp Links and Offset Pull Toes anchor pulling combination. When pressure is applied, dents are gradually popped out. Soldering strips can be removed in a few seconds by applying heat.

BLACKHAWK® OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

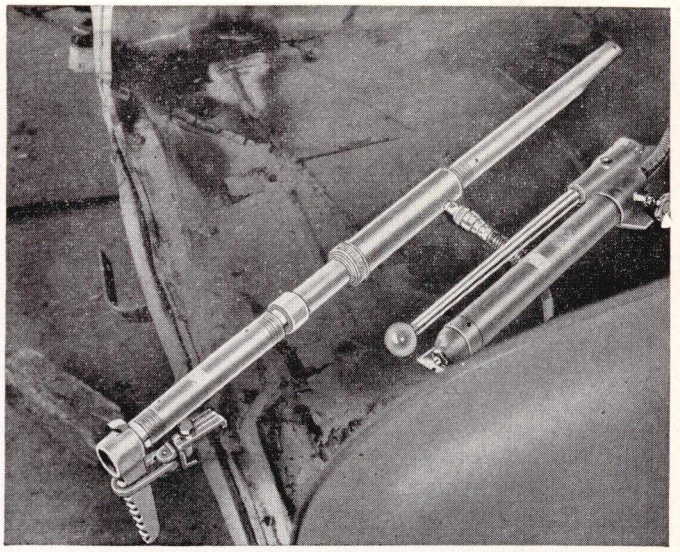
On-the-car repair is easier, faster with Porto-Power

PULLING with Porto-Power



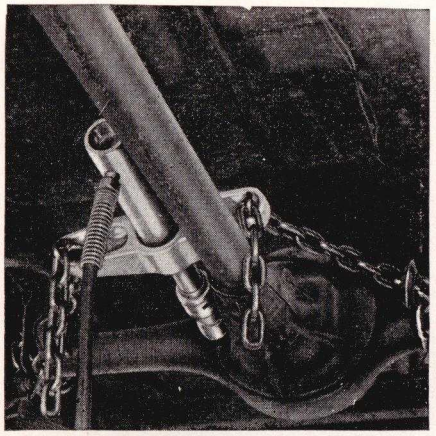
OFFSET PULLING WITH PORTO-POWER

An offset pulling set-up employing a 10-ton general purpose Ram is used to re-align slightly sprung truck door. Where panel damage is not severe enough to require removal, Porto-Power set-ups can be used for on-the-car operation. When panels are removed they can be conveniently held in adjustable arms of Blackhawk's Bench-Rack for roughing-out.



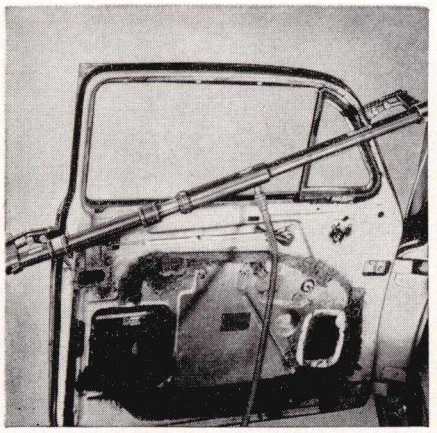
CORRECTING DAMAGED TRUNK

Badly bashed trunk floor panel is pulled out quickly with Porto-Power. The adjustable Fender Clamp has enough clearance to reach around the damaged metal, then can be tightened down to get a firm bite before pressure is applied. The notched Offset Pull Toe enables body mechanic to adjust height of Ram and Extension Tubes to clear panel.



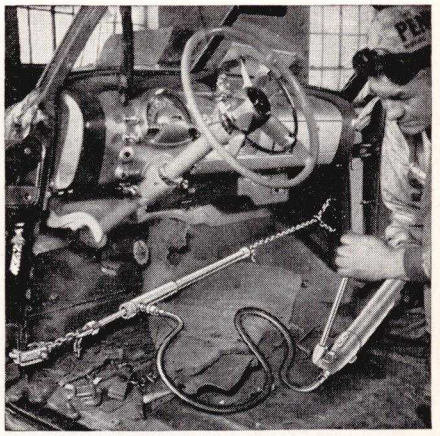
STRAIGHTENING REAR AXLE HOUSING

When axle shaft is not bent enough to require replacement this hook-up is very practical. Housing is not removed. Straightening pressure is applied until axle shaft can be turned freely. Additional pressure overcomes springback.



STRAIGHTENING DOOR WITH PORTO-POWER

To restore proper shape to damaged door frame, body mechanic uses 10-ton offset pulling combination. This set-up includes Offset Pull Toes, Clamp Links and Pull Clamps. Clamps are able to get a firm bite on narrow door molding.



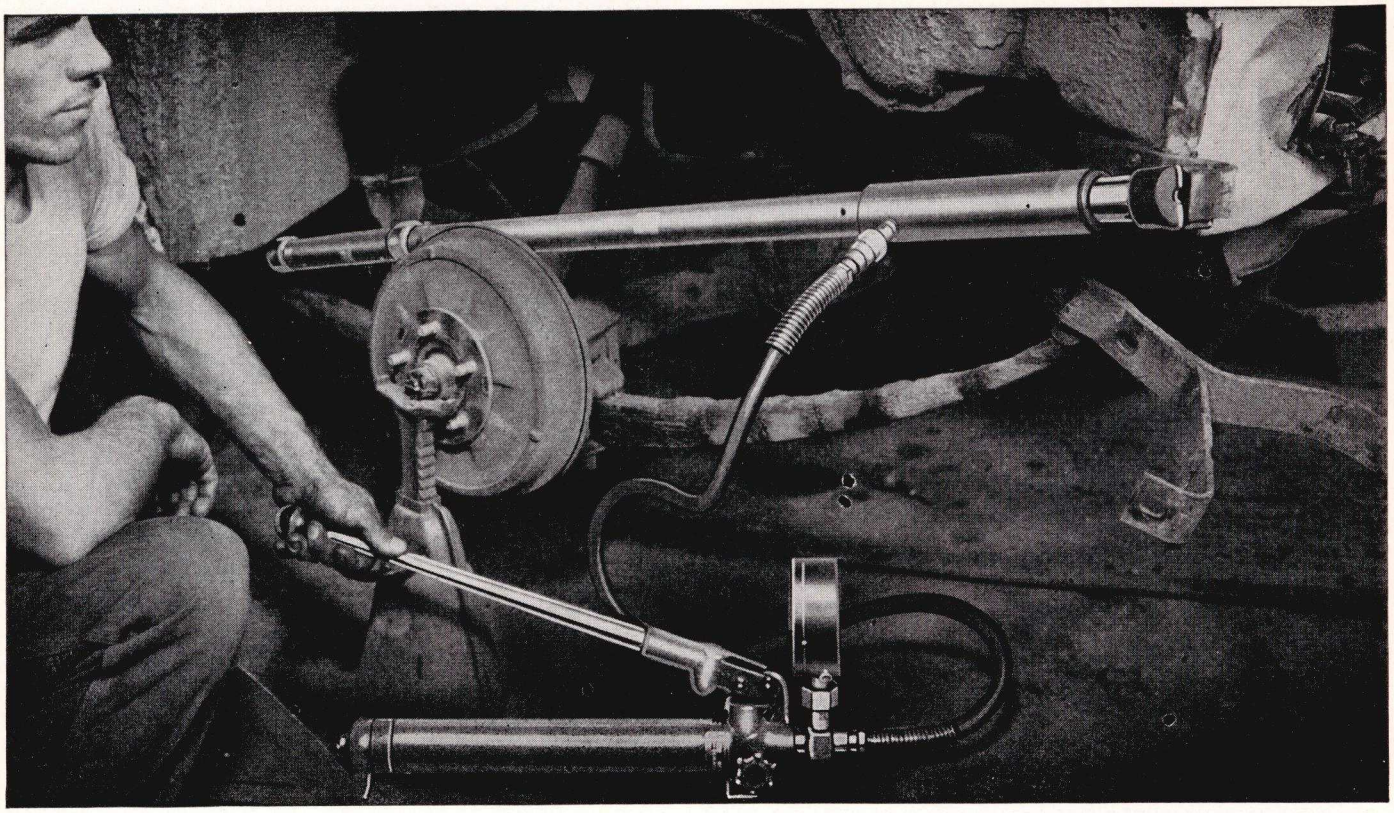
STRAIGHTENING FRONT DOOR POST

Damaged door post is pulled into position with Bantam Pull Ram. The set-up is securely anchored to undamaged right door post. Equipped with Spee-D-Coupler, this pump can be used with other Bantam Rams and Spreaders.

. . . THE MOST COMPLETE LINE OF BODY JACKS—Porto-Power

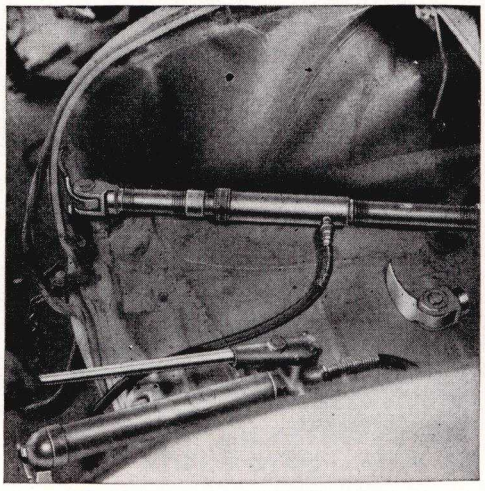
PUSHING with Porto-Power

Only Blackhawk gives you all the necessary attachments for all types of body damage



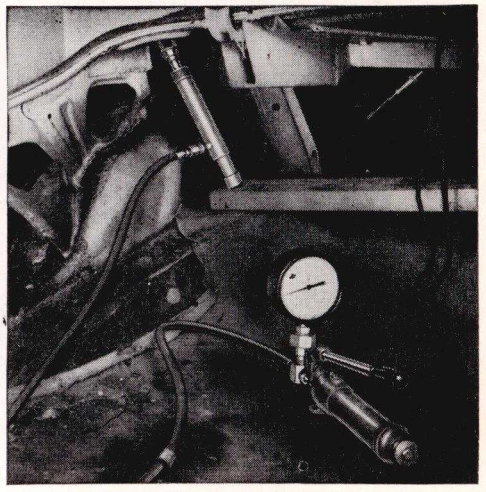
PORTO-POWER PUSHES OUT REAR PANEL

Body mechanic uses Standard 10-ton Porto-Power to push out rear quarter panel. The left end of the set-up is butted against the spring Shackle and the "V" Base on the right end is firmly hooked against the brace. The gauge used in this set-up is not necessary in day-to-day body repair and reconditioning.



CORRECTING REAR PANEL

A combination of standard Porto-Power with a wide face Adjustable Power Spoon is used to push out lower section of rear panel. Sheet metal is cut away to give firm anchorage.



RESHAPING PANEL CROWN

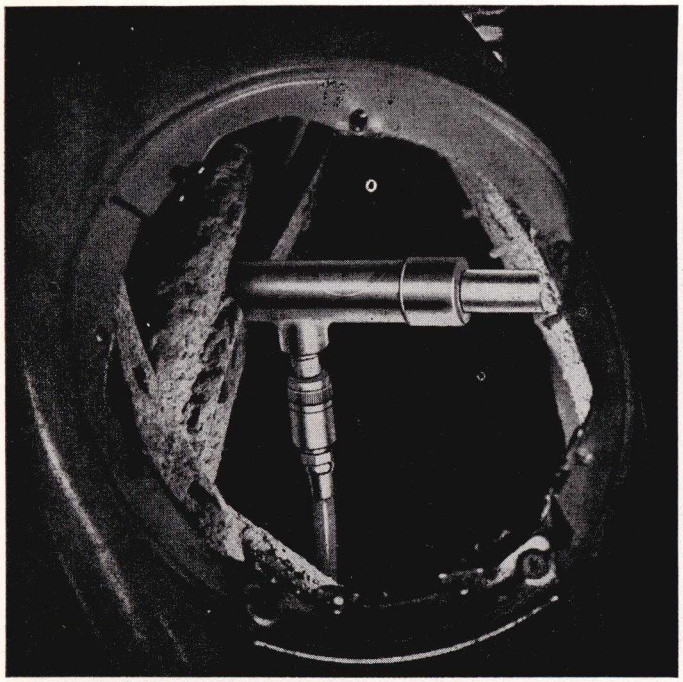
In this set-up, Bantam Porto-Power with an Adjustable Body Spoon is used to push up low crown section of rear quarter panel. Gauge is not necessary to perform this operation.

Instructions for assembling Bantam, Standard and 20-ton pushing combinations are given on Pages 28, 29.

BLACKHAWK® OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

Only Blackhawk gives you the right size and style ram for each type of body damage

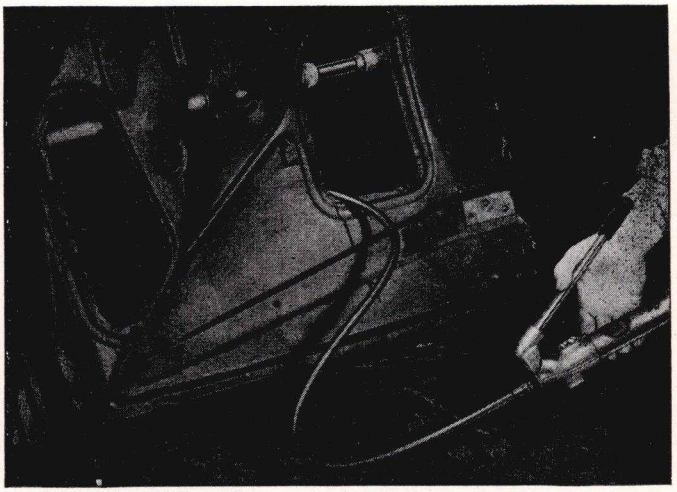
PUSHING with Porto-Power



SHORT RAM STRAIGHTENS FENDER—Bantam RC-618 Short Ram is slid inside front fender to knock-out dents. Only 4⅞" high, the Short Ram is compact enough for close-in work. Yet screw extension on plunger gives a long lifting range. Serrated saddle bites in for secure grip. Maximum height with extension is 9".

REPAIRING REAR PANEL

Bashed rear panel is straightened with Bantam Porto-Power. Flat Base on Ram gives firm footing against trunk floor base. Flex Head, not visible in picture, pushes out panel without damaging metal. Steady hydraulic pressure straightens metal to exact point desired by body mechanic.



PUSHING OUT DOOR DAMAGE

Slender Bantam Porto-Power Ram and Extension Tubes easily slide between door panel and framework to push out damage. Although the Ram is almost completely enclosed by the door structure, flexible six-foot hose and swiveling couplers enable body mechanic to easily operate pump.

. . . THE MOST COMPLETE LINE OF BODY JACKS—Porto-Power

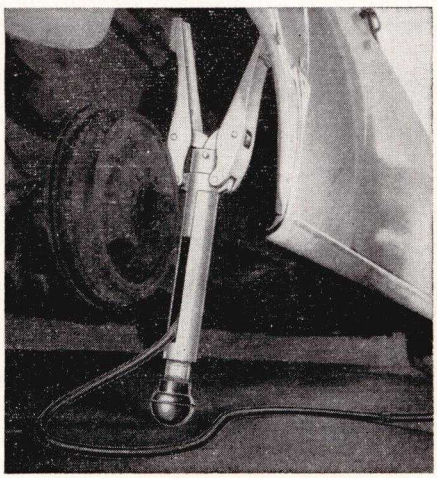
SPREADING with Porto-Power

Blackhawk introduced the first practical hydraulic spreaders, to help you coin bigger profits

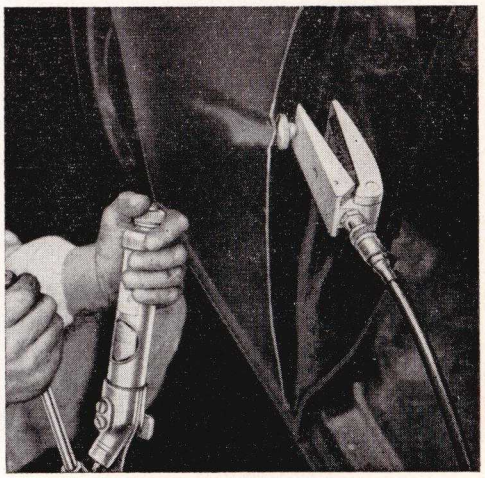
HYDRAULIC "SPRED-RAM" SPEEDS BODY WORK

Body mechanic uses "Spred-Ram" to push out smashed rear panel. This SA-7 reaches into narrow, tight openings where dollies and hammers won't fit. It has a built-in ram, a spreading range of almost 12 inches, and a reach of over 19 inches. The "Spred-Ram" saves time and work on body reconditioning. It can be used with either Standard or Bantam pump and hose.

Various spreading combinations that can be made with Porto-Power equipment are described on Page 30. The SA-7 "Spred-Ram" is cataloged on Page 19.



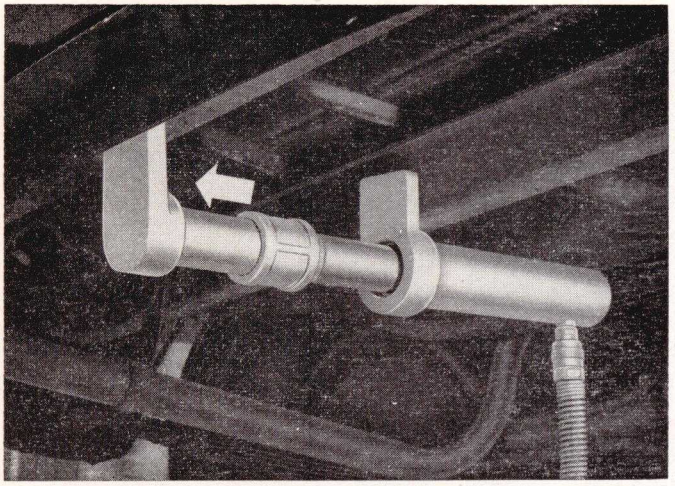
SPREADING DAMAGED FENDER
The FZ-1700 Ram Base Extension is used to support "Spred-Ram" while it is pushing out bashed fender. When using this Extension, body mechanic has a hand free to operate pump or check the panel.



REMOVING FENDER CREASE
Wedgie with Mushroom Pick attachment irons out crease in front fender. This small spreader has a built-in ram and jaws that open from 3/8" to 3 3/4" for working in cramped quarters. Top jaw is slightly curved for dollying.

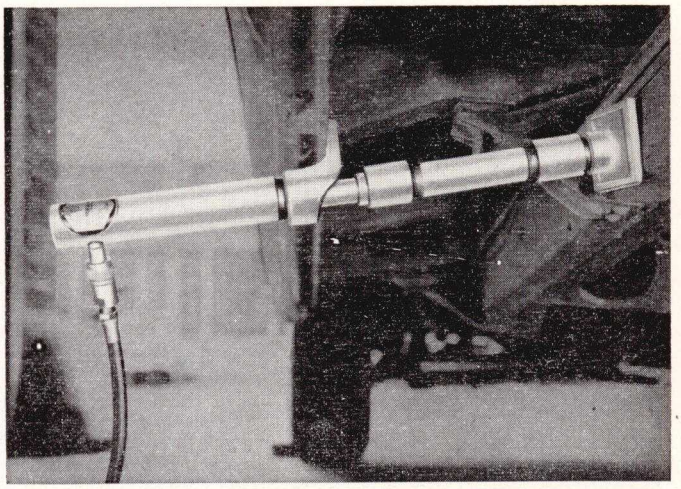
Yes sir, you can spread all these ways. There's no end to what Porto-Power can do

SPREADING with Porto-Power



SPREADING REAR HEADER

A dented rear header is straightened with a spreading combination that includes Standard Ram, Spreader Plunger Toe, Spreader Ram Toe, Extension Tube and Tube Coupling. The Spreader Ram Toe is braced against the car frame. Similar spreading set-ups can be made with Bantam Porto-Power.

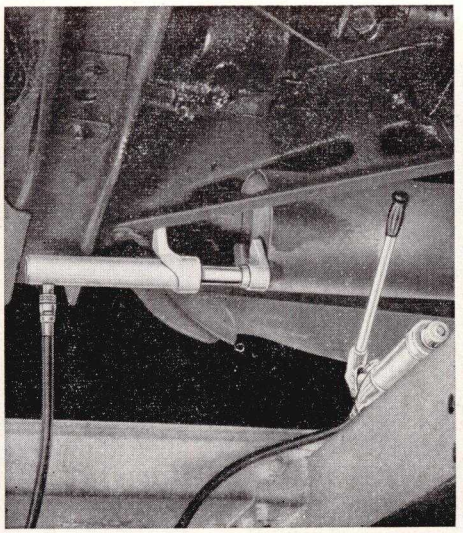


STRAIGHTENING ROCKER PANEL

Damaged left rocker panel is pushed out with Bantam spreading combination. This set-up includes a Spreader Ram Toe, Extension Tube and Couplings plus a Flat Base which anchors the set-up against the car frame. Adjustable Ram Toe can also be used for this type of set-up.

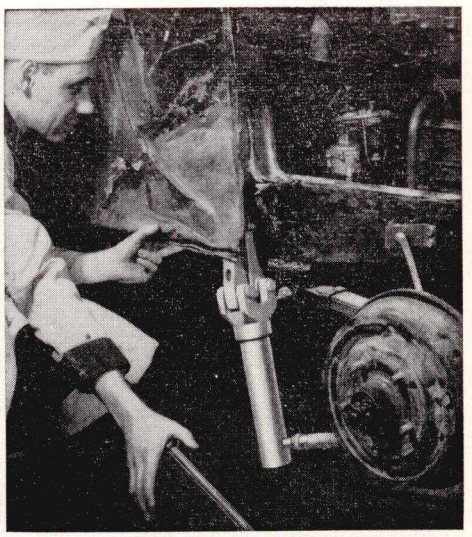
POPPING OUT DENT IN DECK LID

SA-6 Wedgie is slid inside trunk deck lid frame and used to spread out deep dent. Only the Wedgie with a closed clearance of 3/8" at the jaws can do a speedy, effective spreading job in close quarters.



PORTO-POWER LOOSENS TIGHT MUFFLER

Frozen muffler connection is pried loose with Bantam Porto-Power using a Spreader Plunger Toe and a Spreader Ram Toe. Six-foot hose lets mechanic use this set-up while car is on grease rack or pit.



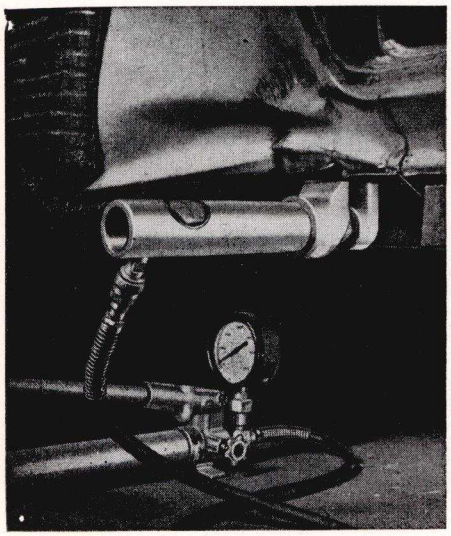
REPAIRING COWL WITH DUCK BILL SPREADER

Duck Bill Spreader is used to spread out damaged cowl. A 10-ton Porto-Power Ram screws into the bottom of this sheet metal spreader. When fully open, it has a 6" spread at tips; closed clearance is 1½".

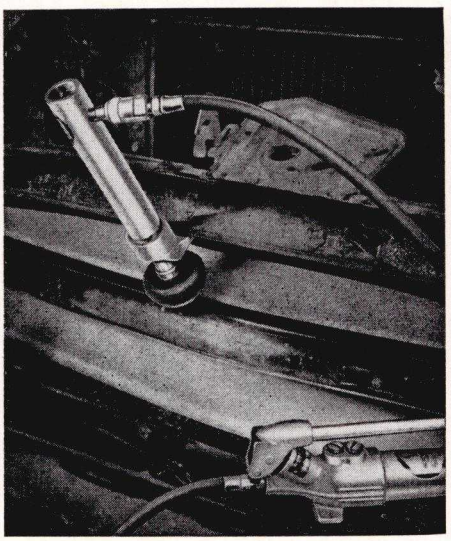
. . . THE MOST COMPLETE LINE OF BODY JACKS— Porto-Power

SPREADING with Porto-Power

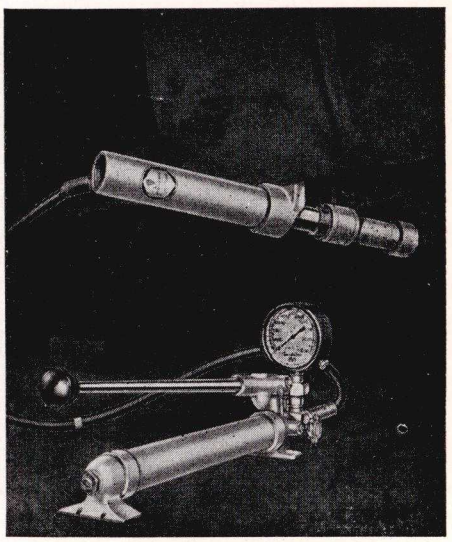
Look at these many ways to spread, using a push ram and a few key attachments



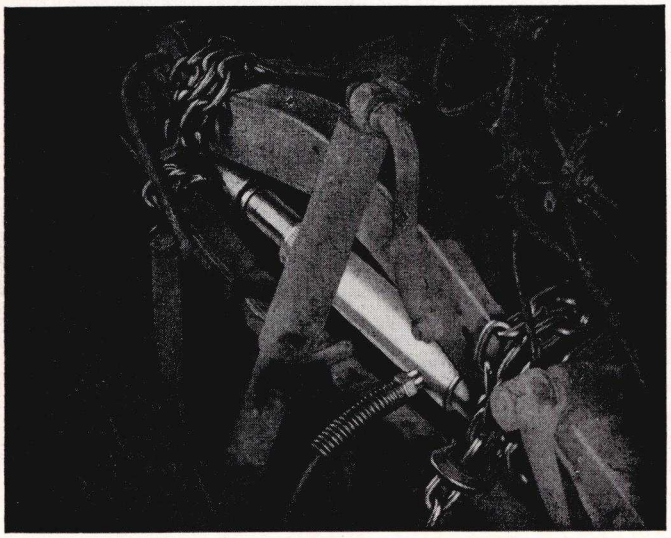
SPREADING DAMAGED PANEL
Badly crushed rear quarter panel is pulled out with Standard Porto-Power, using a spreading combination. Spreader Toe attachments require minimum clearance and get into tight spots. Gauge on pump is not essential for this set-up.



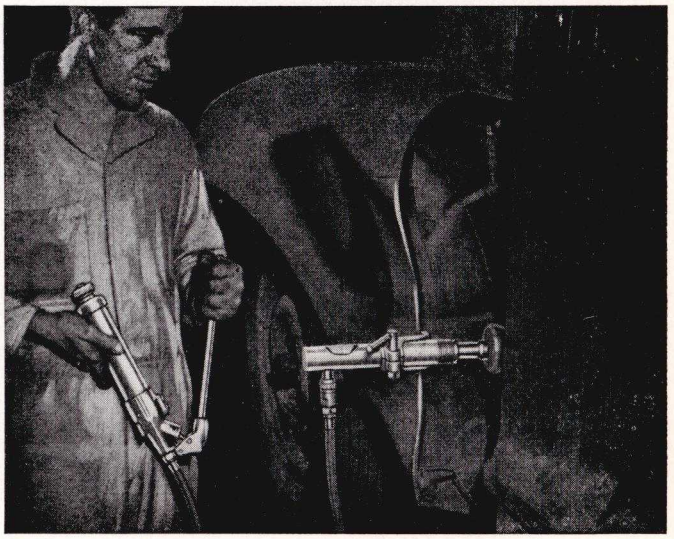
STRAIGHTENING DENTED GRILLE
Bantam Porto-Power pops out slightly damaged grille plate. Hard rubber Flex-Head permits set-up to be braced on lower grille plate without damaging chrome-plated finish. Spreader Ram Toe has serrated lip to prevent slipping.



PULLING OUT FENDER
Dented front fender is pulled out with spreading combination using Standard Porto-Power. Extension Tube and Coupler give ram plunger added length. Serrated Saddle takes firm grip on frame so that the set-up will not slip.



CORRECTING FRONT FRAME CURVATURE
Standard Porto-Power combination is nestled between the frame and the spring, exerting pressure to re-align damaged frame. Two 90° "V" Bases anchor set-up against chains wrapped around frame. The hydraulic spreading force pulls frame down into position.

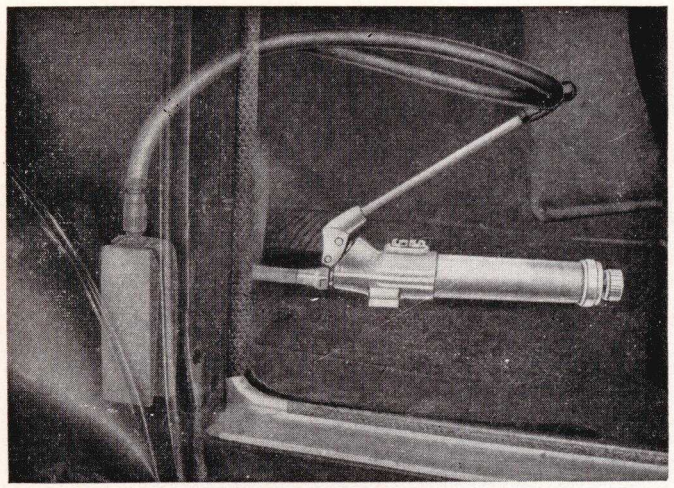


SPREADING SMASHED FENDER
Bantam spreading combination pulls out badly crushed front fender. The Adjustable Ram Toe, that is gripping fender, can be positioned anywhere on Ram making this set-up flexible enough to solve many spreading problems. Flex-Head is braced against door post.

BLACKHAWK OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

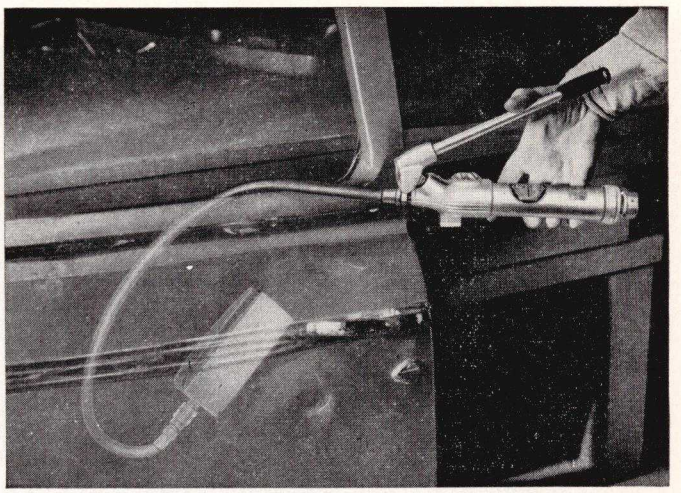
The only spreader with a set of pick tools to lick trouble-some dents, creases, kinks

SPREADING with Porto-Power



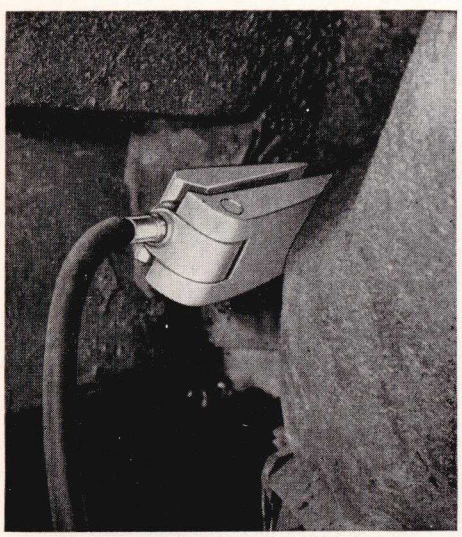
WEDGIE PUSHES OUT PANEL

Hydraulic Wedgie is slid inside of damaged side panel to push out dent. The built-in ram gives it from 2 to 10 tons of spreading power depending on whether the Bantam or Standard pump is used. Top jaw of Wedgie is curved and slightly crowned for dollying.



CORRECTING DOOR DAMAGE

Dented door panel is straightened with Wedgie that is slipped inside of door structure. Wedgie is only 2" high at tallest spot allowing it to get inside of doors and panels easily. This permits it to do a better job where hammers and bars can't be used.

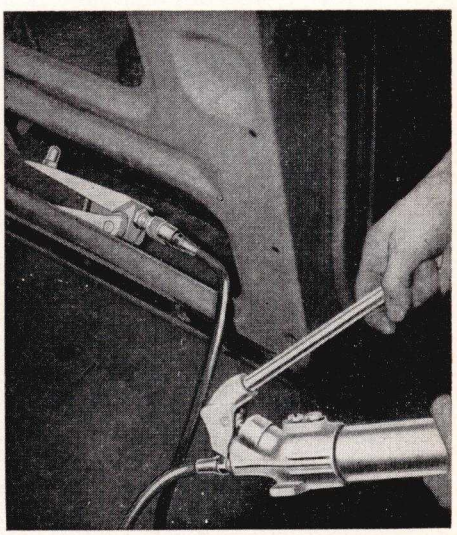


SPREADING INSIDE OF WHEEL WELL

Wedgie is used to spread out damaged fender that has been crushed against frame. With only a 3/8" closed-jaw dimension, the Wedgie is able to get into the tightest cracks where a spreading operation is necessary.

PICK ATTACHMENT REMOVES KINKS

Mushroom Pick attachment is used on Wedgie to erase kinks on rear quarter panel. This attachment has extended edge for getting behind beads or lips, and a 1½" diameter head for correcting larger dents.



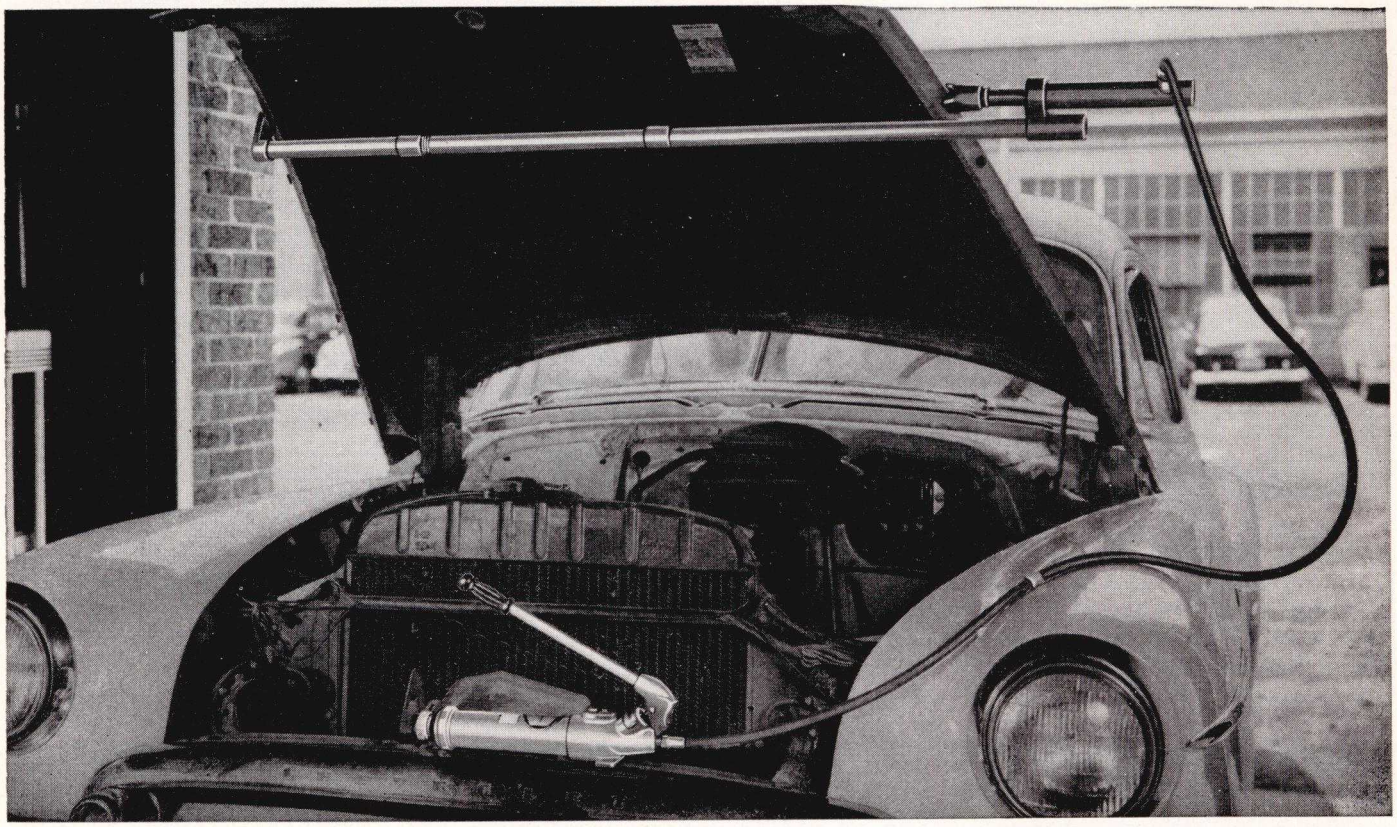
IRONING OUT DOOR CREASES

Wedgie with Round Pick attachment is used inside door frame to remove long creases. Damage like this is easy to "walk out." Wedgie fits into this cramped space where pick, hammer or dolly won't work.

. . . THE MOST COMPLETE LINE OF BODY JACKS— Porto-Power®

CLAMPING with Porto-Power

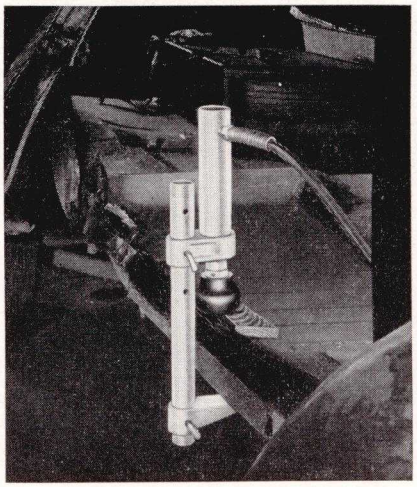
Clamping combinations that cut job time—help you offer best bids



CLAMPING COMBINATION ALIGNS HOOD

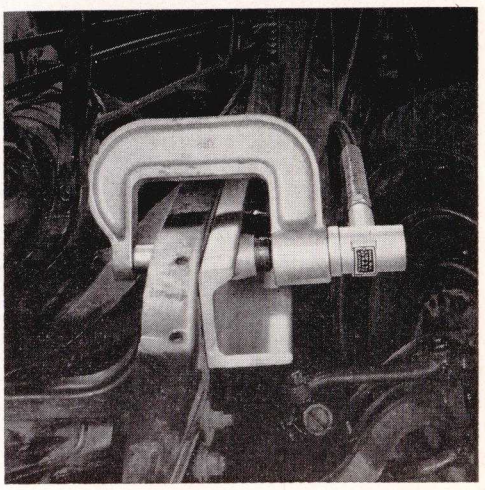
A sprung hood that is damaged as a result of front-end impact is partially re-aligned with Porto-Power clamping combination. Bantam Clamp Head is screwed onto the External threads of the Ram and serves as right-hand anchor of clamping set-up. Extension Tubing is screwed into offset opening of Clamp Head. Spreader Plunger Toe is used on left side of set-up.

For instructions on how to assemble various clamping combinations, see Page 31.



CORRECTING ROCKER PANEL

Standard clamping combination straightens badly crushed rocker panel. Offset hook-up is made possible with Extension Tube Clamp Head, Extension Tube, and Clamp End Toe.



STRAIGHTENING FRAME SECTION

Bent frame member is straightened with Standard Porto-Power clamping set-up. 7-Ton "Shorty" Ram is used with "C" Clamp, "C" Clamp Adaptor, and Frame Clamp Plate. Adaptor pushes against bar inside car frame.

BLACKHAWK OFFERS YOU MORE "DOLLARS FROM DAMAGE" WITH . . .

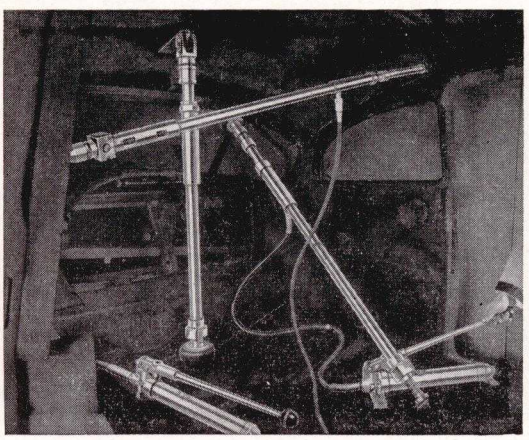
Handle the big wrecks profitably with Porto-Power— the only complete line

MULTIPLE Porto-Power Combinations

MULTIPLE POWER SET-UPS SPEED BODY WORK

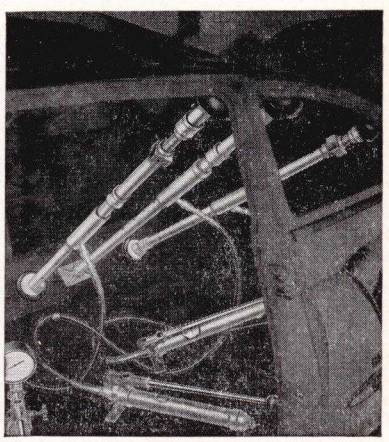
Illustrated on these two pages are examples showing how mechanics use several Porto-Power combinations simultaneously—as a team — to recondition cars that have suffered major body damage. Pictured above are two Standard Porto-Power set-ups pushing out a top that was badly crushed when the car rolled over. Slip Lock Extensions are generally used on these long hook-ups so that they can be quickly adjusted to the exact length required.

Pages 26-31, inclusive, describe the various pulling, pushing, spreading, clamping, and pressing combinations that can be made with Porto-Power Equipment.



RESHAPING CAR TOP

Two set-ups exert pressure on left side and rear top body section while third set-up pushes out dents in center of car top. Adjustable Roof Spoons fit roof contours.

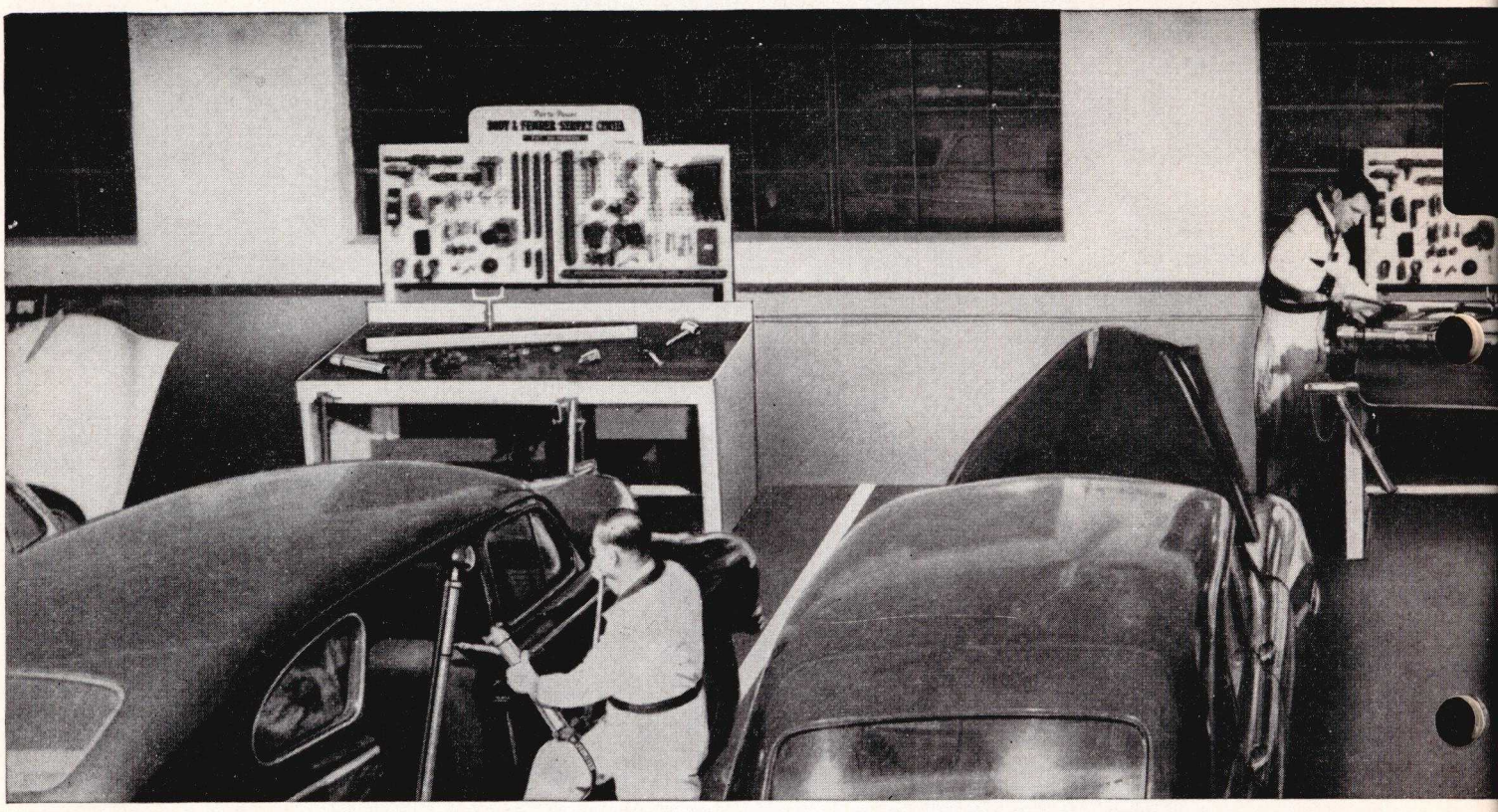


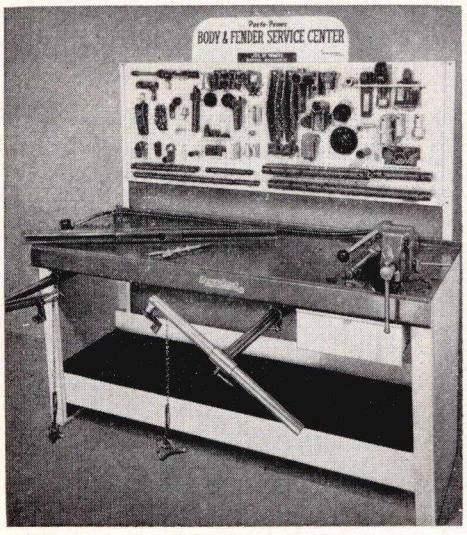
ROOF REPAIRING

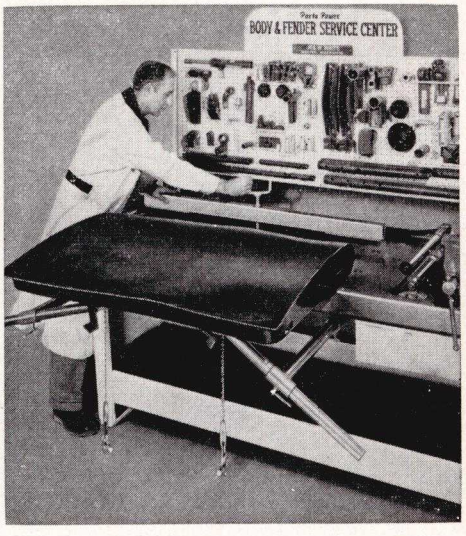
Two set-ups hold damaged area under tension while third exerts pressure. This prevents collapse of damaged metal.

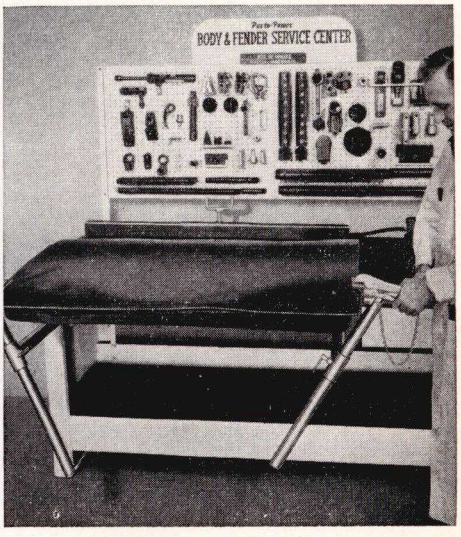
Porto-Power Bench-Rack

Here's how to increase body shop labor output 25 to 40%





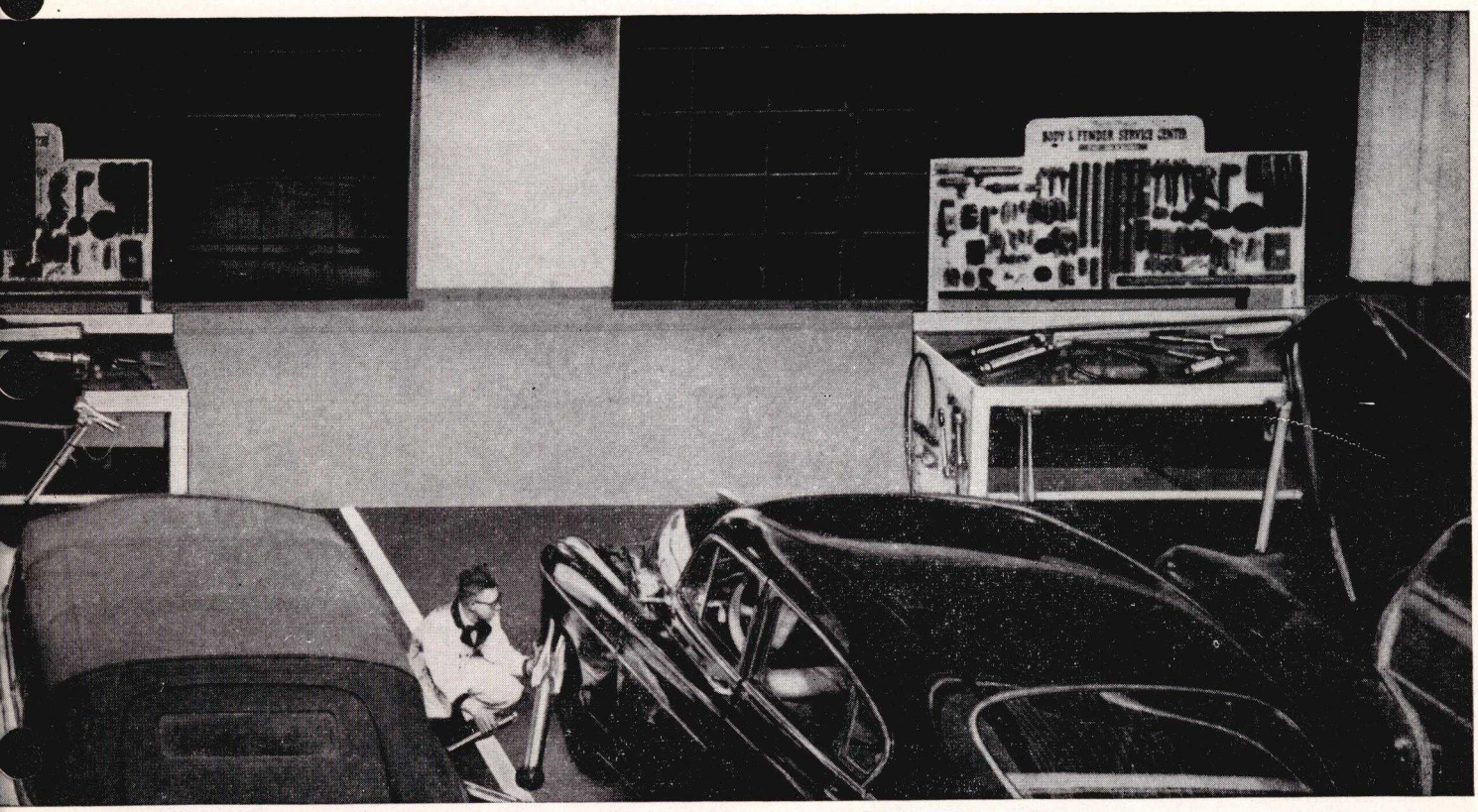


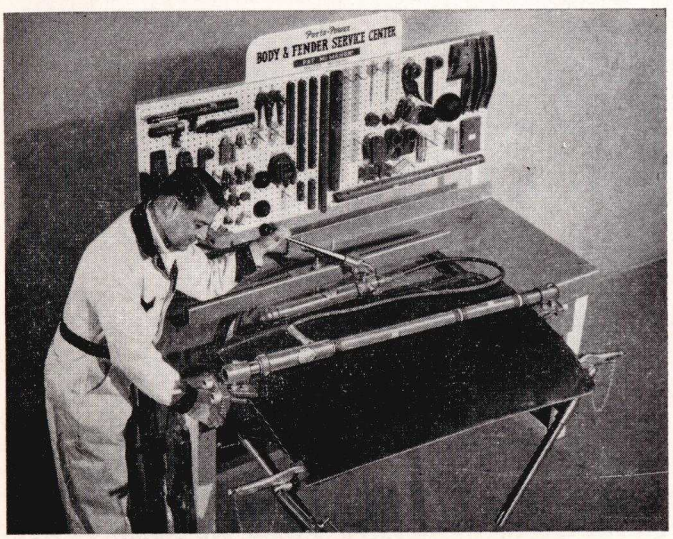


BENCH-RACK GIVES BODY MECHANIC WORK CENTER AND COMPLETE HYDRAULIC TOOLS FOR ON-THE-CAR AND OFF-THE-CAR REPAIRS—On this and the following three pages is described the Blackhawk Bench-Rack which gives the body mechanic a complete body and fender service center. With it he has a steel work bench that is complete with adjustable clamping arms that rigidly hold panels for off-the-car repair, a complete set of Porto-Power equipment and storage space for hydraulic and other tools.

Meet today's competition with this great, new idea

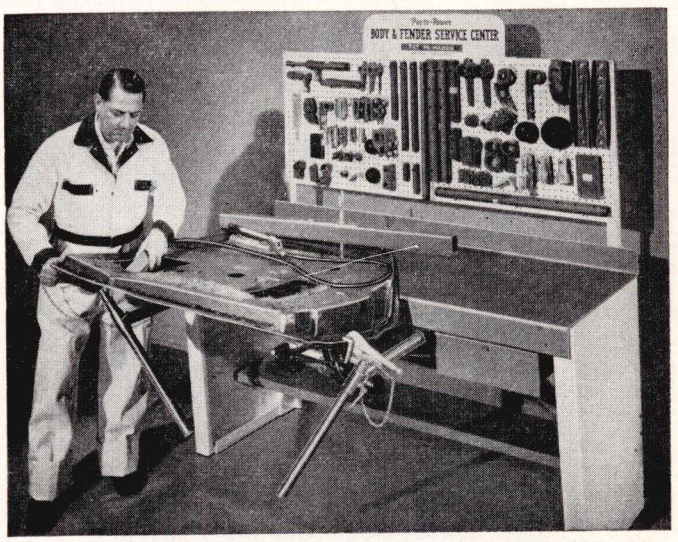
Porto-Power Bench-Rack





BENCH-RACK SPEEDS PULLING JOB

Body mechanic uses offset pulling set-up to pull out dents in car door. Door is held securely in place on Bench-Rack by Adjustable Clamping Arms at bottom and by Door Bar across the top. Door Bar is fastened to bench with Clamp Screw.

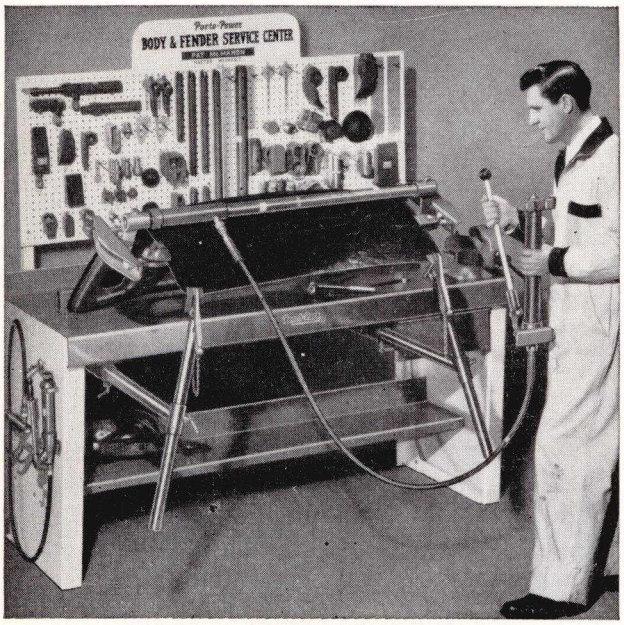


BENCH-RACK SIMPLIFIES DOOR REPAIR

Bantam Wedgie which is part of Bench-Rack assortment is used to spread out inner construction of door. Sturdy steel panels furnish handy storage space for Porto-Power Equipment. Other body tools are stored in convenient drawer or on shelf beneath bench.

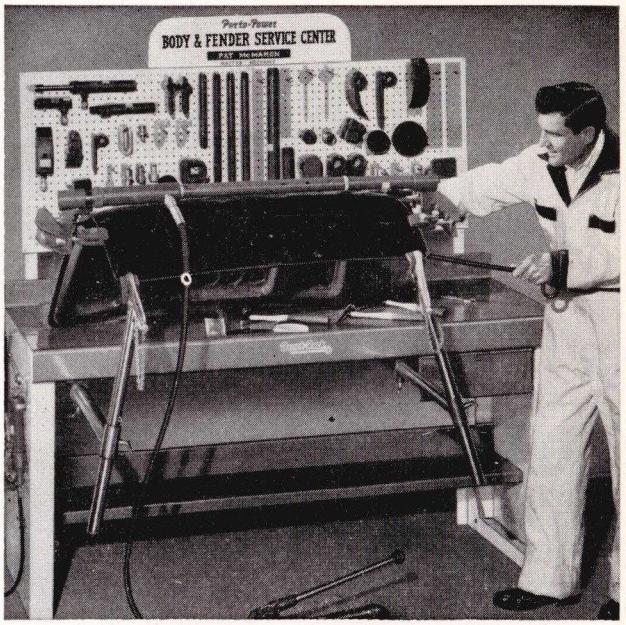
Porto-Power Bench-Rack

A work-bench, a holding-rack, plus all necessary body jack equipment for on and off-the-car repair



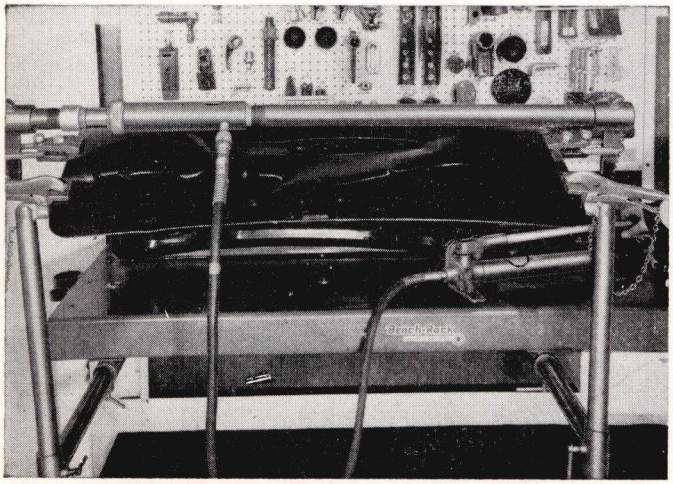
PULLING OUT DAMAGED DECK LID

Bench-Rack's Adjustable Clamping Arms hold deck lid rigidly while Standard Porto-Power set-up pulls out damage. Notched Offset Pull Toes, Pull Bars and dual sets of Pull Clamps are used at either end of this combination.



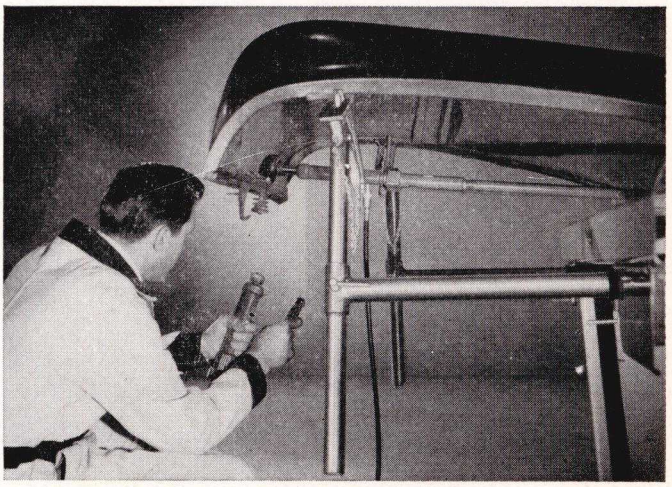
SMOOTHING OUT DENTS IN DECK LID

While Porto-Power combination exerts pulling pressure on deck lid, body mechanic uses pick tool to pop out small dents. Deck lid is braced at the back by Door Bar. This prevents it from slipping while bodyman is roughing-out damage.



PLIER WRENCHES CLAMP PANEL TO ADJUSTABLE ARMS

Close-up view illustrates how Plier Wrenches tightly grip panel and lock it to Adjustable Clamping Arms. Notched Offset Pull Toes, Long Clamp Links and single Pull Clamps are used with Standard Porto-Power in this pulling combination.



ADJUSTABLE CLAMPING ARMS ACCOMMODATE ANY REMOVABLE PANEL

Horizontal arms are pulled out to the maximum distance from bench and vertical arms hold damaged hood. Bantam Porto-Power set-up is braced against back of bench and, with Flex-Head, is used to push out kinks.

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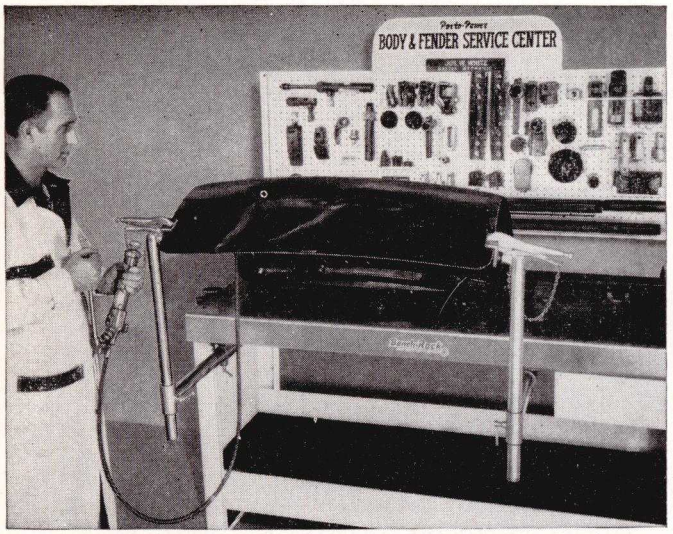
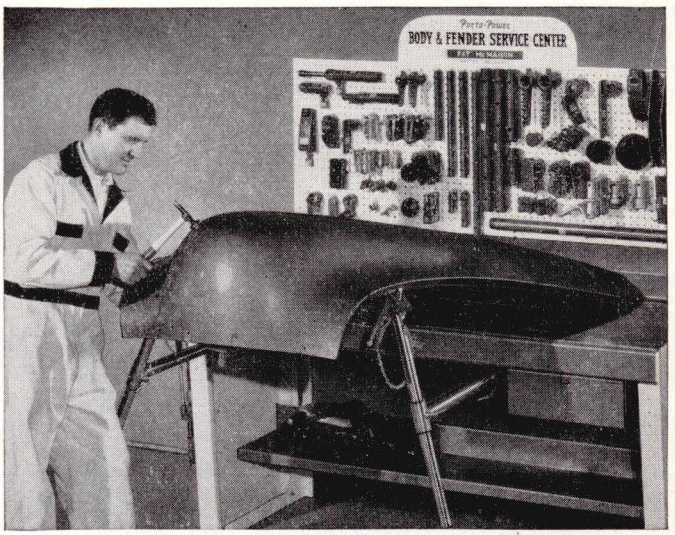
Only Blackhawk brings you great new developments like this to keep pace with today's market

Porto-Power Bench-Rack



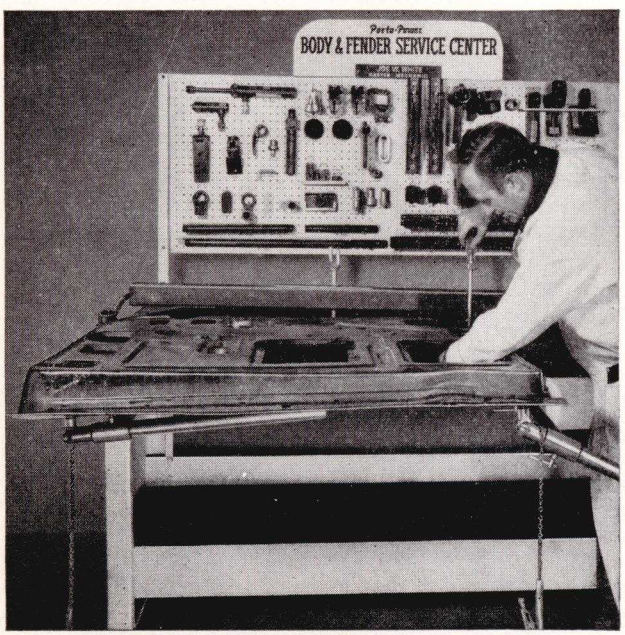
SPREADING OUT DAMAGED DECK LID

Wedgie spreader ram, part of the Bench-Rack's hydraulic tool assortment, is slid up inside panel structure to iron out dents in deck lid. Bodyman need not worry about lid slipping while he's working because Adjustable Clamping Arms hold it rigidly in place.



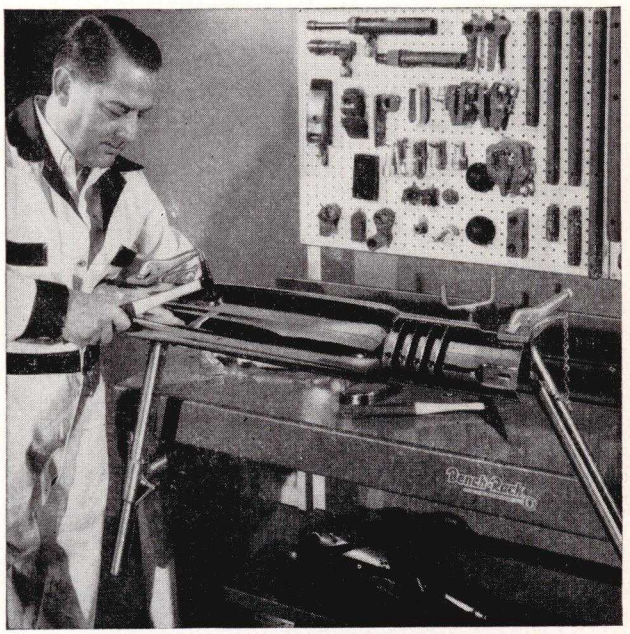
SMOOTHING SMALL DENTS IN HOOD

Bench-Rack easily handles bulky, removable body panels like this hood. The versatile Adjustable Clamping Arms hold it steady while body mechanic takes out small dents and ripples. Arms give clearance permitting him to get at any part of the hood.



REMOVING DOOR HARDWARE

Outside of door rests against rubber-padded angle bracket on Adjustable Clamping Arms, and door is anchored by Door Bar while bodyman removes hardware. Same position is handy for re-installing parts after door damage is repaired.



WORKING OUT DENTS IN GRILLE

Bench-Rack provides convenient working position for straightening dents and kinks in grille panels of modern cars. Rigidly secured by Adjustable Clamping Arms, grille's misalignment can also be corrected in this handy set-up.

Porto-Power

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2,255,987
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FZ-2704 METAL SHOP SIGN THAT IDENTIFIES YOUR BODY SHOP!

This attention-getting, heavy-duty, 24x28" metal sign identifies your body shop as having modern, efficient Porto-Power equipment. A snappy, red-white-and-blue sign to tell your customers (or prospects) that you are headquarters for turning out "A-1," economical body repair and rebuilding. Or you can order FZ-2704 Sign with your brand name (in place of car pictured on photo at left).

Porto-Power GUARANTEE

Blackhawk guarantees its Porto-Power against defects in workmanship or material for 90 days from date of delivery to the user. Only exception is Porto-Power chain, which by trade custom of its manufacturers is not guaranteed. During this 90 day period, your nearest Franchised Blackhawk Service Depot will repair or replace free of charge, any defective parts when defect was caused by originally faulty material or workmanship. Your only requirement for the fulfillment of this guarantee is to send your unit to the nearest Franchised Blackhawk Service Depot by prepaid transportation.

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